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**THE COLLECTION OF MAMMALS IN THE TRANSVAAL MUSEUM
REGISTERED UP TO THE 31st MARCH, 1913, WITH DE-
SCRIPTIONS OF NEW SPECIES.** (Text figures 6-11.)

By AUSTIN ROBERTS.

1. *Otolemur crassicaudatus kirki*, (Gray).
1 ♂, Boror (Kirby & Roberts).
2. *Otolemur crassicaudatus garnetti*, (O'Gilby).
1 juv. ♀, Tambarara, P.E.A. (Grant).
1 ♂, 1 ♀, 1 juv. ♀, Woodbush (Jameson).
2 ♂, Zimbiti, Beira (Sheppard).
1 ♂ (juv.), Ngoye Hills, Zululand (Grant).
3. *Galago maholi*, A. Sm.
2 ♂, 1 ♀, Zoutpan, Pretoria District (Roberts).
1 juv. ♂, Mazoe, Mashonaland (Darling).
4. *Galago granti*, Thos. and Wr.
1 ♂, Coguna, Inhambane, P.E.A. (Grant).
1 ♀, Mzimbiti, Beira (Sheppard).
2 ♂, Boror (Kirby and Roberts).
5. *Galago nyassae*, Elliot.
1 ♂, Blantyre District (pres. Col. Lyell).
6. *Hypsignathus monstrosus*, (Allen).
2, ? West Africa.
7. *Epomophorus Wahlbergi*, Sund.
1 ♂, 1 ♀, 1 juv. without skull, Port St. Johns District (Swinny).
1 ♂, Malvern, Natal (Jameson).
1 ♀, 3 juv. (2 ♂, 1 ♀), Hector Spruit, Transvaal (Streeter).
1 ♂, 1 ♀, Tzaneen Estate, Transvaal (Jameson).
In spirits: 1, Hector Spruit (Streeter); 1, Komatipoort (pres. Major Hamilton).
8. *Epomophorus crypturus*, Ptrs.
1 ♀, Tzaneen Estate (Jameson).
5 ♂, Inkomati River, Transvaal (Roberts, Joubert).
In spirits: 1, Barberton (pres. H. C. Williams, Esq.); 1, Kalomo, N.W. Rhodesia (Jameson).
9. *Rousettus Leachi*, (A. Sm.).
10, Knysna (Rex).
10. *Eidolon helvum* (Kerr.)
In spirits: 1, Rustenburg (pres. J. P. Shaw, Esq.).
11. *Rhinolophus augur*, K. And.
4 ♂, 1 juv. (and 1 in spirits), Knysna (Rex).

12. *Rhinolophus aurgur zuluensis*, K. And.
 1 ♂, Port St. Johns (Swinny).
 1 ♂, Insuzie Valley (Grant).
 2 ♂, Venterskroon, Potchefstroom (Roberts).
 5 ♂, 9 ♀, and 6 in spirits, Wonderfontein Caves (Jameson).
 2 ♂, 1 ♀, and 1 in spirits, Johannesburg (Jameson).
 1 ♀, Pretoria (Roberts), and 2 in spirits (Jenkins and v. Dam).
 2 ♂, Makapan Caves (Jameson).
 Also in spirits: 1, Folderia, Ermelo (Swierstra and v. Hoepen);
 6, Lydenburg (Krantz); 7, Louws Creek (Gough); and 1, Woodbush
 (pres. Hon. P. A. Methuen).
13. *Rhinolophus empusa*, K. And.
 In spirits: 3, Hennops River (Swierstra); 1, Irene (Taylor); 1 Pretoria
 District (v. Niekerk).
14. *Rhinolophus simulator*, K. And.
 1 ♀, Klein Letaba (Grant).
 1 ♂, 1 ♀, Hector Spruit (Streeter).
15. *Rhinolophus capensis*, (Lcht.).
 In spirits: 1, Knysna (Rex).
16. *Rhinolophus Swinnyi*, Gough.
 4 ♂, 2 ♀, Port St. Johns (Swinny), including type and cotype.
17. *Hipposiderus Commersoni*, (Geoffr.).
 1 ♂, Zimbiti, Beira (Sheppard).
18. *Hipposiderus caffer*, (Sund.).
 1 ♂, Port St. Johns (Swinny).
 1 ♀, and 1 in spirits, Malvern, Natal (Jameson).
 9 ♂, Hector Spruit (Streeter).
 1 ♂, Tete (Grant).
 In spirits: 1, Sabi, Transvaal (pres. Major Hamilton); Victoria Falls
 (pres. Hon. P. A. Methuen).
19. *Nycteris capensis*, (A. Sm.).
 3 ♂, 2 ♀, Port St. Johns (Swinny).
 2 ♂, and 1 in spirits, Malvern, Natal (Jameson).
 2 ♂, 3 ♀, Fountain Grove (Jameson).
 1 ♀, Pretoria (Roberts), and 1 in spirits (Dr. Meyer).
 1 in spirits, Metlapetsi River, Transvaal (pres. Dr. Breyer).

The specimens from the Transvaal are paler and larger (in so far as body and ear measurements are given by collectors) than those from elsewhere, though the skulls are identical, and they should perhaps rather be referred to *damarensis* of Peters. The following will illustrate the difference in size:—

	H. and B.	Tail.	Ear.
5 <i>capensis</i> ...	51-55	47-50	25-32
5 <i>damarensis</i> ? ...	57-62	55-63	34-38

20. *Vespertilio capensis*, (A. Sm.).
 1 each, Johannesburg (Jameson), Pretoria City (Roberts), and Bush-
 veld, Pretoria District (Roberts).
 In spirits: 4, Krabbefontein, Transvaal (pres. Dr. Breyer); 2, Johannes-
 burg (Jameson); 6, Pretoria; 1, De Kroon, Pretoria District (van
 Dam); 5, Modderfontein (Haagner); 3, Lydenburg (2 Gurr, 1
 Krantz); 1, Grahamstown.

21. *Pipistrellus kuhli fuscatus*, Thos.
 1 ♂, Malvern (Jameson).
 1 ♂, 1 ♀, Tzaneen Estate (Jameson).
 1 ♀, Port St. Johns (Swinny).
22. *Pipistrellus rusticus*, Tomes.
 1 ♀, Tzaneen Estate (Jameson).
 1, Olifants River, Pretoria District (Noomé).
 1 ♂, 1 juv., Hector Spruit (Stréeter).
23. *Pipistrellus nanus*, Ptrs.
 4 ♂, 1 ♀, and 3 in spirits, Malvern (Jameson).
24. *Pipistrellus nanus australis*, subsp. nov.
 1 ♂, 4 ♀, Port St. Johns District (Swinny).
 1 ♀, Port St. Johns (Shortridge).

Darker in shade of colour and with a slightly larger skull than the specimens from Malvern, Natal, which agree with Peters' description of *nanus*. According to Thomas and Schwann (*Proc. Zool. Soc.*, 1905, p. 258) the skull of the type specimen of *Vespertilio subtilis*, Sund., is not like that of *nanus*, but of a typical *Pipistrellus* of small size; the measurements recorded by them also indicate that *subtilis* is smaller than this southern race of *nanus*. Type: ♀, F.M. No. 1076, ex coll. H. H. Swinny, Port St. Johns, 20.4.08. "H. and B., 36 mm.; tail, 34; hind foot, 5; ear, 9." Skull: gr. length 12.5, basal length 9.6, breadth 7.1, C.-M. series 4.2, breadth at molars 5. Forearm (skin) 30.

The following figures will illustrate the difference in size between the skulls of the two races:—

	Gr. leng.	Basal leng.	Breadth.	C.-M. leng.	Br. of Mol.
<i>nanus</i> ...	11.6-12	9.1-9.3	6.4-7	3.9-4	4.6-4.9
<i>australis</i>	11.7-12.6	9.3-9.7	6.8-7.1	4.1-4.3	4.8-5

25. *Scotinus schlieffeni australis*, Thos. and Schwann.
 1 ♂, Tete (Grant); also skin without skull.
26. *Scotophilus nigrita dingani*, (A. Sm.).
 1 juv., Malvern (Jameson).
 1 juv., Lourenço Marques (pres. C. W. Howard).
27. *Scotophilus nigrita herero*, Thos.
 1, ♂, Pretoria (pres. Dr. J. W. B. Gunning).
28. *Scotophilus viridis*, Ptrs.
 2 ♂, Beira (Sheppard).
29. *Kerivoula lanosa*, (A. Sm.).¹
 1 ♀, Knysna (Rex); also 1 in spirits.
30. *Kerivoula nidicola*, (Kirk).
 1, Boror (Kirby and Roberts).

This specimen is much more brightly coloured than those from Knysna (*lanosa*), and the skulls differ considerably in size, measuring:—

	Gr. leng.	Basal leng.	Breadth.	C.-M. Series.	Br. of Mol.
<i>K. lanosa</i> ...	13.5	10.5	8.3	5.2	5.2
<i>K. nidicola</i> ...	15.4	11.6	9.9	6	6

In preparing his monograph of the Chiroptera, Dobson seems to have taken one of Smith's typical specimens of *K. lanosa* and given it the name

of *K. brunnea*. At the same time he mistook Kirk's *K. nidicola* for *lanosa*, basing his description of the latter upon the type of the former. Recently this Borer specimen of *K. nidicola* has been identified with *K. brunnea* (vide *Ann. Transv. Mus.*, Vol. III, No. 1, p. 56).

31. *Taphozous mauritianus*, Geof.
1, Tzaneen Estate (Uhrde).
 32. *Miniopterus dasythrix*, (Temm).
2 ♂, 1 ♀, Knysna (1 Grant, 2 Rex).
 33. *Miniopterus natalensis*, (A. Smith).
14, Wonderfontein Caves (Jameson); also 3 in spirits.
7, Gatkoppies, Waterberg (Jameson).
1 ♀, Tzaneen Estate (Jameson).
6, Hector Spruit (Streeter).
In spirits : 79, Pretoria District (Jenkins and v. Dam); 2, Makapan Caves (Hon. P. A. Methuen).
- The specimens from Gatkoppies were given the subspecific name of *M. n. Breyeri*, but the difference in colour is so very slight, while there is no other means of distinguishing them, that I do not feel justified in recognizing the race. The specimens from Hector Spruit are quite distinct in colour, some of them having the whole of the throat down to the middle of the breast, the sides of the neck, and a collar over the back of the neck of a dull earthy maroon; but in other respects they are similar to those from elsewhere in the Transvaal.
34. *Miniopterus fraterculus*, Thos. and Schw.
2 ♀, Knysna (Grant).
 35. *Nyctinomus Bocagei*, Seabra.
1 ♂, Potchefstroom (Jameson); also 2 in spirits.
2 ♂, 1 ♀, Florida, Transvaal (Jameson).
 36. *Nyctinomus aegyptiacus*, E. Geof.
1 in spirits, Grahamstown (pres. Mrs. G. White).
2 in spirits, Pretoria (pres. C. W. Howard and Schwann).
 37. *Chaerophon limbatus*, Ptrs.
1 in spirits, Lourenco Marques (pres. C. W. Howard).
 38. *Macroscelides melanotis*, (O'Gilby).
1 ♀, Klipfontein (Grant).
 39. *Macroscelides proboscideus*, (Shaw).
1 ♀, Deelfontein (Grant).
 40. *Nasilio brachyrhynchus*, (A. Sm.).
1 ♂, 1 ♀, 1 juv., Tzaneen Estate (Jameson).
(?) 1 ♂, Nylstroom (Roberts).
 41. *Elephantulus Edwardsi*, (A. Sm.).
1 ♂, Hanover, C.P. (Shortridge).
1 ♀, Deelfontein (Grant).
 42. *Elephantulus rupestris Jamesoni*, Chubb.
6 ♂, 6 ♀, Johannesburg (Jameson).
 43. *Petrodromus tetradactylus*, Ptrs.
3 ad. 1 juv. ♂♂, 3 ad. 1 juv. ♀♀, Boror, P.E. Afr. (Kirby and Roberts).
4, Chirinda Forest, S. Rhod. (C. F. M. Swynnerton).

An old ♂ from Boror measures "H. and B. 190, tail 171, hind foot 54, ear 32"; skull: gr. leng. 53·2, bas. leng. 46·6, zyg. br. 27·9, dent. ser. 28·3, mol. ser. 18·2, br. at m¹. 17·9.

44. *Petrodromus Beirae*, spec. nov.

1 ad. ♂ (type), 1 juv. ♀, and 3 without skulls, Zimbiti, Beira.

This species differs from the foregoing, which it resembles in colour, in having longer feet, a larger skull, and wide diastema between all the teeth from the canine to the third premolar in the lower jaw; in the maxilla the teeth are also somewhat more widely separated than in *tetradactylus*, especially P2 and P3. The skull of the type and an adult ♂ of *tetradactylus* of the same age measure, respectively:—

	Gr. leng.	Bas. leng.	Zyg. br.	Dent.	Mol.	Br. Mol.
<i>Beirae</i> ...	55·4	49·5	28·6	29·2	18·2	18
<i>tetradactylus</i> ...	50·8	45	26	27·5	17	18

Unfortunately, none of the specimens have been measured in the flesh; but it is clear from measurements of the hind feet taken from the skins that those from Beira are longer, the measurements being 55–57 as against 48–51 (50–54 in flesh). The cotype, in which the skull is not complete, measures 54 in the hind foot and 17·6 across the molars, although it is very young, the hindmost molar being still absent.

It is clear from Peters' figure of the skull of *tetradactylus* that he took a Boror specimen as the type, unless, of course, those taken at Tette were similar; but he states that he found it to be more common in Boror, probably at the same place on the Liquari River where the specimens of *tetradactylus* above mentioned were taken, and it seems most likely that he chose the type from the larger series.

45. *Petrodromus occidentalis*, spec. nov.

1 ♂, 2 ♀, N.W. Rhodesia (C. Wilde).

This species apparently agrees with the description of *P. venustus*, Thos., as regards colour, but has a longer tail, hind foot, and ear. In regard to the teeth, their position seems to be similar to those of *tetradactylus*, but the inner cusp of P2 is missing; this character is, however, not to be relied on, as the cusp apparently wears down with advancing age.

Type: Young adult ♀, T.M. No. 677, ex coll. C. Wilde, N.W. Rhodesia, 11.9.07. "H. and B. 205, tail 180, hind foot 58 (in skin 54), ear 35"; skull: gr. leng. 53·4, bas. leng. 47·1, zyg. br. 27·8, dental ser. 28, molar ser. 17·6, breadth at molars 18 mm.

46. *Petrodromus Schwanni*, Thos. and Wr.

1 ♀, Coguno, Inhambane, P.E. Afr. (Grant).

The peculiar knobs on the bristles of the under surface of the tail of this species are probably the result of grass fires having scorched the ground over which the animals are forced to run, and thus the bristles have become burnt and formed into peculiar knobs. It is significant that this specimen was taken about the time grass fires are generally found to be in progress in that belt of country.

47. *Rhynchocyon Cirnei*, Ptrs.

1 young ad. ♂, 1 ♀, Boror, P.E. Afr. (Kirby and Roberts).

These are topo-types of the species, but are not as large as the type, which was probably very old.

48. *Myosorex varius*, Smuts.

4, Knysna (Rex).

49. *Myosorex caffer*, Sund.
Large series, Port St. Johns (Swinny).
1 ♀, Hilton Road, Natal (Jameson).
1, Wakkerstroom (Jameson).

50. *Myosorex Sclateri*, Thos. and Schw.
2 ♀, Ngoye Hills (Grant).

51. *Myosorex Swinnyi*, Chubb.
Large series, Port St. Johns (Swinny).

The type of this species is the smallest in the series, but the largest do not appear to overlap the measurements of *M. Sclateri* to which this species is allied.

52. *Myosorex tenuis*, Thos. and Schw.
1 ♂, Tzaneen Estate (Jameson).

The following table of measurements may be found useful for reference :—

	<i>M. varius.</i>	<i>M. caffer.</i>	<i>M. Sclateri.</i>	<i>M. Swinnyi.</i>	<i>M. tenuis.</i>
H. and B. ...	79-90	73-92	98-103	74-95	81
Tail ...	51-56	37-46	49-55	36-46	40
Hd. ft. ...	13-14	13-14.5	16	14-15	14
Ear ...	9	9-10.5	10-11	9-11	11
Skull :—					
Gr. leng. ...	21-21.8	22.3-23.7	24.5-25.5	23-24	—
Bas. leng. ...	18.5-19	19.5-21	21.8-22.3	20.2-21.5	—
Gr. br. ...	10.3	10.3-11.2	11.9-12.1	10.9-11.5	—
Dent. ser. ...	8.9-9.7	9.5-10.5	10.5-10.8	9.8-10.5	9.3
Molar ser. ...	5.4-5.7	5.6-6	6.2	5.6-6.2	5.3
Br. max. at mol.	6.5-7.1	7.1-7.5	7.5-7.6	6.8-7.4	6.7

53. *Pachyura gracilis*, Blainv.
1 ♀, Wonderfontein (Jameson).
1 in spirits, Krabbefontein (pres. Dr. Breyer).
54. *Crocidura flavescens*, I. Geof.
2, Knysna (Rex).

55. *Crocidura cinnamomea*, (Leht.).
Very large series, Port St. Johns (Swinny).
These specimens all lack the dull reddish orange colour on the chin and chest which characterises *flavescens*, and also differ in having a smaller skull.

The following specimens seem also to be referable to this species :—
1 ♀, Wakkerstroom; 1 ♂, Hilton Road; 1 ♂ and 2 in spirits, Malvern (Jameson); and 1 ♂, Wakkerstroom (Roberts).

56. *Crocidura hirta*, Ptrs. (?)
1 ♂, Boror (Kirby and Roberts).
57. *Crocidura flavidula*, Thos. and Schw.
1 ♀, Tzaneen Estate (Uhrde).
2 in spirits, Woodbush (pres. Hon. P. A. Methuen).

If my identification of this species is correct, it seems to me to be best to retain this as a distinct species on account of its slender feet and smaller skull.

The following is a table of measurements taken from the specimens of the genus referred to above:—

		<i>C. flavescens. cinnamomea. hirta(?) flavidula</i> (Tzaneen).			
H. and B. ...	... —	90	-112	—	92
Tail ...	... —	41	-55	—	43
Hd. ft. ...	... —	14	-16	—	15
Ear ...	... —	9	-11	—	12
Gr. leng. ...	... 29·3	26	-27·9	24·4	23·4
Bas. leng. ...	... 26·1	22·3-24·6		21·2	20·8
Gr. br. ...	... 12·3	10·1-11·5		9·7	9·8
Dent. ser. ...	... 12·6	10·5-12·6		11·1	10·2
Mol. ser. ...	... 7·4	6·1-7		6·1	5·6
Br. at mol. ...	... 10·2	8-9·4		7·6	7·2

58. *Crocidura pondoensis*, spec. nov.

Very large series, Port St. Johns (Swiny).

This species is a dwarf form of *cinnamomea*, side by side with which it is found. In colour and all external characters it so closely resembles *cinnamomea*, that it might well be thought to be the young of that species; but a comparison of a large table of measurements shows that it in no way approaches the larger form in size, and there are obviously young specimens of both species in the respective series. It is probably more closely allied to Smith's *C. mariquensis*. Type: ♂, T.M. No. M. 901, ex coll. H. H. Swiny, Ngqeleni District, Pondoland, 16.7.08. "H. and B. 78, tail 59, hd. ft. 13, ear 10." Skull: gr. leng. 22, bas. leng. 19, br. 9·5, dent. ser. 9·3, mol. ser. 5·2, br. maxilla at mol. 6·5.

The range of variation in size is as follows:—

H. and B. 68-84, tail 51-59, hd. ft. 13-14, ear 8-10. Skull: gr. leng. 20·6-22·1, bas. leng. 18·2-19·1, br. 8·9-9·6, dent. ser. 9-9·6, mol. ser. 5-5·4, br. of maxilla 6·4-6·8.

I may here note that there are a number of specimens in the series of this species and the larger ones, that have much shorter fur than the majority. Careful examination proves that this is more often characteristic of smaller and younger specimens, and that it is due to the growth of new fur; this conclusion is supported by the presence of several specimens in which the greater part of the fur is short but a patch of longer fur of double the length still remains, conspicuously projecting out, either on the sides of the body or lower back.

59. *Crocidura argentata*, Sund.

1 ♂, Deelfontein (Grant).

This specimen is labelled "*C. capensoides*, Sm.": but it agrees better with the description of *C. argentata*, to which species I am therefore referring it; *C. capensis* of Smith's "Illustrations" is a darker coloured animal, and the muzzle is said to be entire.

60. *Crocidura silacea*, Thos.

1 ♂, Pretoria (pres. Mrs. Swierstra).

61. *Crocidura sylvia*, Thos. and Schw.

2, Beira (Sheppard).

1 ♂, Pretoria (pres. Mrs. Noomé).

The skulls of the Beira specimens are broken, but such measurements as can be taken show that they must have been larger than the typical specimen from Woodbush. The Pretoria specimen, on the other hand, is somewhat smaller and apparently much darker than the type of *sylvia*.

62. *Crocidura Martensi*, Dobs.

1, Knysna (?).

This specimen bears no label indicating where it was taken, but as the "make-up" of the skin is like that of *Rex*, it most likely came from Knysna. The skin measures, about: H. and B. 86, tail 67, hind foot 15.5.

63. *Chrysochloris Duthiae*, Broom.1 ♂, 1 ♀, and 2 in spirits, Knysna (*Rex*).64. *Chrysochloris Gunningi*, Broom.1 ♂, 1 ♀ (type), Woodbush (*Kirby* and pres. Miss A. Eastwood).65. *Amblysomus hottentottus*, (A. Sm.).1 ♂, Pirie (*Stenning*).1 ♀, Pirie (*Stenning*).

The ♂ has a skull of the average size, while the ♀ has a much larger skull (length 29.9 mm.), though in other respects it does not differ materially from the ♂. It is possible that these skulls have been attached to the wrong skins, but against this the measurements recorded on the labels are: for the ♂, head and body 116, and for the ♀ 120.

66. *Amblysomus hottentottus longiceps*, Broom.2 ♂, 2 ♀, Dargle District, Natal (*Roberts*).11, Wakkerstroom (*Roberts*); and 7 skulls.4, Belfast, Transvaal (pres. E. E. Yates, Esq., and *Roberts*).

This series does not throw much light upon the variation of the species. Specimens from the Dargle District are similar to those from Pirie: the Wakkerstroom specimens are darker and larger than those from the Dargle; while two of the four specimens from Belfast are very bright red, matching in colour the two specimens of *C. gunningi* from Woodbush, while the larger are like the Wakkerstroom specimens. The following table of measurements will better illustrate the measurements of skulls of specimens from the four districts mentioned:—

	Males.			
	Pirie. (1)	Dargle. (2)	Wakkerstroom. (9)	Belfast. (1)
Gr. leng. ...	26.9	28-28.7	29.5-30.5	29.7
Bas. leng. ...	18.8	19-19.2	20 -21.1	20
Gr. br. ...	16.5	16.6-17	18.2-18.8	18.2
Int.-orb. br. ...	7.8	8.6-9	8.2- 9.2	9.4
Dent. ser. ...	9.9	10.5	11 -11.5	11.5
Br. at mol. ...	8.6	8.8	8.6- 9.2	9.3
Females.				
	(1)	(2)	(7)	(3)
Gr. leng. ...	29.9	26.8-27.1	27.8-29	28 -29.5
Bas. leng. ...	20.9	18.5-19	19 -19.9	19.3
Gr. br. ...	18.2	15.1-16.5	17.2-17.6	16.5-17
Int.-orb. br. ...	8.4	8.3- 8.6	8.5- 8.9	8.2- 8.8
Dent. ser. ...	11.3	10 -10.1	10.5-11	10.8-11
Br. at mol. ...	8.7	8.4- 8.6	8.1-9	8.2- 8.7

There are also skins of a ♂ collected at Kastrol Nek, east of Wakkerstroom (6000 ft.), and of an unsexed specimen from Wakkerstroom (5500 ft.), and the skull of a ♀ from the latter place, which are smaller than those above mentioned, having regard to the sex. The unsexed specimen is apparently juvenile and of the usual colour; but whether the

other two are also young is not evident, though probable. The specimen from Kastrol Nek is dark coloured, of about the same shade as the majority of ♀♀ taken at Wakkerstroom. The skulls of these three specimens measure :—

	♂ Kastrol Nek.	Wakkerstroom (♀?)	Wakkerstroom (skull ♀).
Gr. leng. ...	29	27·2	26·6
Bas. leng. ...	20	18·7	18
Gr. breadth ...	17·4	15·8	16·3
Int.-orb. br. ...	8·8	8·4	8
Dent. ser. ...	11·5	10·5	10
Br. at molars ...	9	8·3	8

67. *Amblysomus hottentottus albirostris*, Wagn.

13, Port St. Johns (Swinny and Thortridge).

It is clear from a study of this series of skins that the young are altogether darker coloured on the back than adults, and the sides of the face are also whiter, in the young stage being typical of Wagner's *albirostris*; the series clearly shows the transition from *albirostris* to Thomas and Schwann's *A. h. pondoliae*, which must therefore revert to the synonymy of the former.

The skulls measure in greatest length, ♂ 27, ♀ under 26 mm.

68. *Amblysomus corriae*, Thos. and Schw.

1 ♂, ♀, and 1 in spirits, Knysna (Rex and Grant).

In colour this species is so distinct from *hottentottus* that, despite the similarity in general of its cranial characters, I think it is advisable to retain it as a distinct species. There are also two more specimens without labels, apparently from the same place.

69. *Amblysomus corriae septentrionalis*, subspec. nov. ✓

This subspecies is founded on a single gravid ♀ taken at Wakkerstroom on 14th September, 1909, in precisely similar conditions as *A. h. longiceps*. In colour it much resembles the specimens of *corriae* known to have been collected at Knysna, though more like the two without labels; it differs also in having a very conspicuous yellowish patch at the sides of the snout. The skull is very much larger, having regard to its sex, than in any member of the subgenus so far recorded. At the time this specimen was taken I was collecting gravid ♀♀ for the purpose of preserving the embryos; but, although about sixty specimens of the common species (*A. h. longiceps*) were captured, this was the only one taken of the black species. I have since made special efforts to get more, and, although I have on several occasions been told of its having been captured by farmers and Kaffirs, have not so far met with success. The single specimen taken was dug out when it was throwing up a mound, and showed extraordinary activity in trying to escape.

The following are measurements of the skulls of four specimens of this species mentioned above and of the one from Wakkerstroom :—

	♀ (Grant).	♂ ? (Rex).	♂ ? (Loc.?)	♀ ? (Loc.?)	♀ W/strm.
Gr. leng. ...	25·8	27·3	28·3	26	30
Bas. leng. ...	17·5	19	19·1	18·5	20·5
Gr. br.	15·1	16·5	17·5	15·6	19
Int.-orb. br. ...	7·9	8·2	8·8	7·9	9·3
Dent. ser. ...	9·5	9·9	10·5	10	11
Br. at mol. ...	7·3	7·8	8·4	7·3	8·3

70. *Amblysomus obtusirostris*, (Ptrs.).

1 ♂, Coguno (Grant).

71. *Chrysospalax Trevelyani*, (Gunther).

1 ♂, 1 ♀, Pirie Forest (Stenning).

3 ♂, 2 ♀, Port St. Johns (Swiny and Shortridge).

72. *Chrysospalax pratensis*, spec. nov.

Of about the same size as *C. villosa*, but rufous coloured in place of grey-brown.

Hair of the whole upper surface of body and sides grey-brown for the basal half, the terminal half being brownish-red, with the extreme tips purple; on the sides, the brownish-red colour is replaced by whitish. Fore part of the head greyer than the back, with the base of the hairs buff, which colour is clearer on the lips and extends in a well-defined line down the throat. The reddish colour of the upper surface becomes almost obsolete on the sides of the throat, breast, and a patch at the sides of the abdomen: but on the abdomen itself is very conspicuous owing indeed to the base of the hair being reddish. Feet, variegated brown. Type: old ♂, taken at Pretoria on 21st January, 1913. "H. and B. 175, hind foot 17." Skull: greatest leng. 36 mm., bas. leng. 25, gr. br. 24·2, inter. orb. br. 7·7, dent. ser. 14·3, molar ser. 9·1, br. at molars 11·4.

This species was discovered at the end of December, 1912, at Wakkerstroom; but as the only old ♂ with all the most marked characters present taken at that place has an incomplete skull, owing apparently to an accident in youth, I have thought it advisable to take a Pretoria specimen as the type. Five specimens which were skinned at Wakkerstroom are all somewhat lighter coloured than the type, but a sixth, which was kept alive for a fortnight and then preserved in spirits, was dark coloured, precisely like the two from Pretoria. Two ♀♀ from Wakkerstroom are the lightest coloured in the series, and considerably smaller, as might be expected; their skulls are of about the same length as that recorded by Broom for a ♀ specimen of *C. villosa*. Unfortunately, I have no specimen of that species for comparison, and cannot now state whether any cranial differences exist between the two species.

The habits of this species are peculiar: for instead of making regular rows of mounds as does *C. hottentottus*, it leaves its burrows open and comes out in search of food upon the surface of the ground. Its burrows are usually situated near large mounds, underneath which the earth is intersected by passages leading off in different directions and no doubt form the regular home of a number of individuals. At night, after rains, it roots about on the surface of the ground after the fashion of pigs. Two young are born at a time, and to accommodate them a large round chamber is made a few inches under the surface of the ground, filled with grass and so surrounded with passages running in various directions as well as downwards, that in case of intrusion from the single open entrance the occupants can easily escape by burrowing through the thin surrounding sides of the chamber. The presence of a nest is usually indicated by a small mound of earth thrown up close to the chamber, the holes at ordinary times being left open. The breeding season is probably affected by the rains, the specimens taken at Wakkerstroom being gravid shortly after rains had set in. The first specimen I saw of this species was one caught by my mother at Belfast in January, 1909; but the skull was unfortunately thrown away by the Kaffir servant, and it was only after

long and careful observation that I at last discovered its habits at Wakkerstroom. The Belfast specimen is smaller than any of those in my present series, and, having the sides of its face whiter, is probably a young one. This species is apparently also found in the Orange Free State and Basutoland, as four people to whom I have shown the specimens recognized them at once, and one informed me that he had often caught them at daybreak when they were out feeding.

73. *Erinaceus frontalis*, A. Sm.

- 1 ♀, 1 juv., Rooiberg, Transvaal (Jameson).
1 ♂, Ventersburg Road (Jameson).
1 in spirits, Pretoria.

74. *Ictonyx capensis*, (Kaup).

- 1 ♂, Port St. Johns (Swinny).
1 juv., Wakkerstroom (Roberts).
1 juv., Wonderfontein (Jameson).
Also skins without skulls from Knysna and Pretoria.

75. *Pocilogale albinucha*, (Gray).

- 1 ♀, Port St. Johns (Swinny).
1 ♂, Surbiton, C.P. (Dell).
1 ♂, Tzaneen Estate (Jameson).
Also skins without skulls from Pretoria and Knysna.

76. *Genetta rubiginosa*, Puch.

- 1 ♂, 1 ♀, Tzaneen Estate (Jameson).

77. *Genetta zambesiana*, (Matschie) ? (description not available).

- 1 ♀, Boror (Kirby and Roberts).

78. *Genetta tigrina*, Schreb.

- 8, Knysna (Rex).

79. *Genetta felina*, (Thunb.).

- 1 juv. ♀, Potchefstroom (Ayres).

80. *Mungos caawi*, (A. Sm.).

- 1 juv. ♀, Venterskroon, Transvaal (Roberts).
1 ad., 1 juv. ♀, Pretoria (pres. V. Manen, Esq., and Zool. Gard.).
1 ♂, 1 ♀, Johannesburg (Jameson).
1 ♂, 1 ♀, Tzaneen Estate (Jameson).

In dealing with this species, Wroughton states that Gray's *punctulatus* may be taken as typical; but on the face of the series of skins above mentioned, I think it more likely that those from the Transvaal are typical, as they give fairly even measurements both in the high and low country, and taking the climatic conditions into consideration we may expect to find much the same (though perhaps not identical) colouring as in those from Bechuanaland. Along the coastline there would seem to be another larger race, for Wroughton has apparently given measurements of the type of *punctulatus*; and further south a still larger race exists, which I am here naming.

81. *Mungos caawi Swinnyi*, subsp. nov.

In most respects this new subspecies is larger than the typical *M. caawi*, but has a shorter tail and short black tip measuring about 75-85 mm., as against over 100 in the others. Type: No. 940, ad. ♂, ex coll. H. H. Swinny, Ngqeleni District, 13.10.07. "H. and B. 325, tail 256, hind foot 48 (? skin 50), ear 24." Skull: cond. bas. leng. 67, bas. leng. 60.3

zyg. gr. 36, br. brain case 28, interorb. br. at constr. 14·2, intertemp. br. 13·8, br. at P¹ 23·5, C-M¹ 23·3. Another specimen, the cotype, is even larger, measuring: "H. and B. 336, tail 256, hind foot 66 (? skin 55), ear 26. Skull: cond. bas. leng. 67·3, bas. leng. 61·5, br. at P¹ 24·6, br. intertemp. constriction, 12·3.

The following figures will illustrate the difference in size, the comparison being restricted to adult males;—

	Johannesburg.	Tzaneen.	Durban (Wroughton).	Port. St. Johns.
H. and B. ...	300	310	300	325 -336
Tail ...	300	270	275	256 -256
Hd. ft. ...	60	60	58	(50) -(55)
Ear ...	25	26	25	24 -26
Skull:				
Cond. bas. leng.	62·8	63	65	67 -67·3
Bas. leng. ...	58·1	58	60	60·3-61·5
Zyg. br....	34·2	32·5	33-35	36
Br. at P ¹ ...	20·7	20·5	20-23	23·5-24
C-M ¹ ...	21	22·5	22	23·3-23·4

In colour there is a decided difference amongst individuals, but the series is not large enough to tell whether this is constant within certain limits in certain localities. The type and cotype of this new subspecies cannot therefore be said to differ very much in colour from those taken in the Transvaal.

82. *Mungos ignitus*, spec. nov.

This species is apparently most closely related to the *M. melanurus* group; but not agreeing with any of the sub-species enumerated by Wroughton, I have thought it advisable to place it as a distinct species. Description: Upper surface of body fiery chesnut red intermingled with tawny yellowish in general appearance, the individual hairs being brown at the roots, then yellowish, followed by alternate bands of first black, then yellowish, black, redder yellow, merging into red brown, and, finally, dark brown at the tips; the top of the head and face is more uniform and slightly redder than the back. Sides of the back lighter coloured than the dorsal line, with less of the red brown colour, becoming still lighter towards the under surface of body, which is uniform tawny yellow. On the upper surface, the base of the tail is like the back, soon merging into a richer fiery chesnut-red which continues until meeting the black tip; the base of the tail on the under surface is uniform tawny yellow like the body, replaced on the central half by uniform bright chesnut-red; limbs like the sides, becoming uniform tawny on the digits.

Type: Ad. ♀, ex coll. Kirby and Roberts, Malava, Boror, P.E. Africa, 13.8.08. This specimen was not measured in the flesh, but the skin gives the following: H. and B. 300, tail 216, hind foot 46. The skull measures: Con. bas. leng. 62·2, bas. leng. 56·6, zyg. br. 31·3, interorb. constriction 11·5, intertemp. const. 11, br. brain case 25, br. at P¹ 21·2, C-M¹ 21·8, mol. ser. 18·6.

83. *Mungos paludinosus*, (Cuv.).
9, Knysna (Rex).

84. *Mungos paludinosus rubellus*, Thos. and Wr.
2 juv., Tzaneen Estate (Jameson).

85. *Mungos caffer*, (Gm.).
4, Knysna (Rex).

86. *Mungos pulverulentus*, (Wagn).
3, Knysna (Rex).
87. *Mungos grandis*, (Thos.).
1 ad. ♂, 1 juv. ♂, Hector Spruit (Streeter).
The skull of the adult measures: Cond. basal length 120, basal length 110, zyg. br. 58, and that of the younger one, in which the second molar has not yet appeared, cond. bas. leng. 106.
88. *Helogale brunnula*, Thos. and Schwann.
4 ad., 1 juv., ♂♂, Hector Spruit (Streeter).
1 ♀, Klein Letaba (Grant).
Skulls of adult males measure 45·5–47·7 mm. in greatest length, and the female and young male 42·3.
89. *Helogale undulata* (Ptrs.).
3, Boror, P. E. Afr. (Kirby and Roberts).
90. *Cynictis penicillata*, (G. Cuv.).
1 juv., Ventersburg Road (Jameson).
1 juv., Potchefstroom (Roberts).
Also, skins without skulls from Uitenhage, Grahamstown, and Potchefstroom.
91. *Suricatta tetradactylus*, (Erxl.).
1 ♂, Grahamstown (Albany Museum).
2 juv. ♂, Wonderfontein (Jameson).
92. *Crossarchus fasciatus*, (Desm.).
1 ♀, Boror (Kirby and Roberts).
Skin without skull from Beira (Sheppard).
93. *Paraxerus cepapi*, (A. Sm.).
1 ♂, Blaauwberg, Transvaal (Noomé).
1 ♀, Plumtree, Rhodesia (Wilde).
1 ♂, Lusakas, N.W. Rhodesia (Treneweth).
5 ♂, 2 ♀, Zimbiti, Beira (Sheppard).
3 ♂, Boror, P. E. Afr. (Kirby and Roberts).
94. *Heliosciurus mutabilis*, (Ptrs.).
1 ♂, 1 ♀, Boror, P. E. Afr. (Kirby and Roberts, Aug. and Sept., 1908).
Both these specimens are slightly larger than the type as described by Peters, and are no doubt older. The presence of an extra premolar in the type is probably a juvenile character.
The male is almost entirely of a bleached reddish tawny colour on the upper surface of the body, only a small patch of grey annulated hairs appearing behind the right shoulder; the forehead, cheeks, legs, and tail have the hairs greyish, tipped with dull white, and the middle of the under surface of the body is almost entirely dull white. The hands and feet are coloured as in the female, as also the forehead and tail, though lighter coloured. The whole appearance of the specimen suggests that the hair has become bleached with age, and the patch of grey behind the shoulder seems to indicate that a growth of new hair is just beginning to take the place of the old.
The female is also bleached in colour, and has a curious parti-coloured appearance owing to the presence of brown patches on the forehead and middle of the back, surrounded by bleached reddish tawny, which extends from the crown to the shoulders, less conspicuously round the brown patch on the back, and in a broad band across the middle of

the back; the lower part of the back is coloured like the tail, the external half of the hairs being of a dark fiery red; the sides of the lower back, sides of the neck, fore and hind limbs, are lighter coloured, and the annulations are more conspicuous; the under surface of the body is like that of the male; and the pectoral mammae are conspicuously situated in barer patches.

In both specimens the hairs of the tail are brown at the base, ringed with white, brown and white, and the external half is lighter red-brown; the hairs of the lower back are brown at the base, followed by a narrow and ill-defined band of dull buff-orange, and the external three-fifths coloured like the tail. The hair of the lower back measures about 30 mm., and that of the tail, three inches from the root, from 37 above to 43 mm. at the sides.

95. *Heliosciurus mutabilis beirae*, subsp. nov.

Specimens from Beira, of which there are three with skulls and two without, are larger than those from Boror, and on these grounds, apart from their colour which is little understood at present, should be recognized subspecifically.

Two of the specimens with skulls (taken in August, 1908) are altogether differently coloured from the Boror specimens, the rings of colour on the body being very dark brown, buff-orange, very dark brown, white, and (the extreme tips) very dark brown, so that the prevailing colour on the upper surface is dark brown with white tips, and when the hair is disturbed the buff-orange is conspicuous. On the tail, too, the rings are very conspicuous, but lack the buff-orange under colouring, thus producing regular rings of brown and white almost to the end of the tail. The two specimens without skulls (taken in April and May, 1908) are slightly darker coloured and somewhat smaller; they are probably younger than the others.

The fifth specimen (taken in October, 1907), in which the skull is incomplete, has the hair bleached, but still retains the pattern of coloration of the other five specimens, and does not show any of the uniform light red-brown on the back which characterizes the two from Boror.

Type: ♂, ex coll. P. A. Sheppard, Zimbiti, Beira, 11th August, 1908. Measurements taken from dried skin:—H. and B. 255, tail 290, hind foot (c.u.) 54. Skull: Gr. leng. 56·8, basal leng. 43·7, zyg. br. 32·5, int.-orb. br. 17, int. temp. br. 16·2, br. brain case 23·9, mol. ser. 10·2, nasals 19 × 8. Hair of lower back about 30: of tail, three inches from root, 36–45.

96. *Heliosciurus mutabilis chirindensis*, subsp. nov.

Distinguished from *H. m. beirae* by its more bushy tail, the hair of which measures 45–55 mm., at a point three inches from the root.

Type: ♂ ex coll. C. F. M. Swynnerton, Chirinda Forest, 6.9.07. "H. and B. 230, tail 290, hind foot 54, ear 20." Skull: gr. leng. 56, basal leng. 43·4, zyg. br. 32, int. orb. br. 18·5, int. temp. br. 14·5, br. brain case 22·1, molar ser. 10·1, diastema 12·5, nasals 17·3 × 8·6.

This specimen is intermediate in colour between the grey specimens from Beira and the light red ones from Boror, and in addition is brighter coloured on the under surface, the throat and sides particularly being richly coloured with orange-yellow; the white tips to the hairs found in Beira specimens are here replaced by tawny.

97. *Paraxerus sponsus*, Thos. and Wr.

1 ♂, Beira (Sheppard).

98. *Paraxerus palliatus Swynnertoni*, Wr.
1 ♂, Chirinda Forest (Swynnerton).
99. *Geosciurus capensis*, Kerr.
1 ♀, Van Wijks Vlei, Carnarvon (Littledale).
2 juv. ♂, Ventersburg Road (Jameson).
100. *Graphiurus murinus*, (Desm.).
3, Knysna (Rex).
12, Port St. Johns (Swinny).

These specimens have all, more or less, a rufous tinge on the chest, with three exceptions, which are probably juvenile. The skulls of the Knysna specimens are not quite complete in two cases, while the third is very slightly smaller than those from Port St. Johns. The following measurements taken from the series will serve for comparison with those of other species to be hereafter dealt with:—

	Knysna (2).	Port St. Johns (10).	Port St. Johns (abnormal ♂).
H. and B. ...	101	84 -95	104
Tail ...	90	59 -95	83
Hd. ft. ...	—	14 -18	17
Ear ...	—	11 -14	14
Skull :			
Gr. leng. ...	26·5-?	27 -27·5	?
Bas. leng. ...	19·7-?	19·5 -20·5	21·4
Zyg. br. ...	—	14·3 -15·2	16·1
Mol. ser. ...	3·4	3·3 - 3·5	3·6
Diastema ...	—4·7	5·5 - 6·3	6·3
Nasals... ...	9·4-10 × 3·5-3	10 -10·3 × 3·1-3·6	? × 3·2
Int. orb. br. ...	4·5	4·3-5	4·6
Br. brain case	12·3-?	12·2-13	13

101. *Graphiurus murinus tzaneenensis*, subsp. nov.

Specimens from the northern Transvaal have been referred to *G. murinus* and *nanus* by Jameson, but a comparison of his specimens with the series of skins from Knysna and Port St. Johns clearly shows that they are distinct. The only point of importance in common is the slenderness of the tail, the skull being smaller than in *murinus* and larger than in *nanus*, the dark vinous tinge of the underparts being confined to a dull mark round the mouth, and the tip of the tail being white. In the last character, as well as the small molars, there is an affinity to other Transvaal species and to *nanus*.

Type: ♂ (ad. but not old) ex coll. H. L. Jameson, Tzaneen Estate, Transvaal, 7.7.07. "H. and B. 82, tail 78, hind foot 18, ear 16." Skull: gr. leng. 26, bas. leng. 19, zyg. br. 13·7, int. orb. br. 4·6, br. brain case 11·5, mol. ser. 3·1, diastema 5·5, nasals 9·8 × 3·5.

An old ♀ from the same place measures: "H. and B. 95, tail 75, hd. ft. 15, ear 12." Skull: gr. leng. 26·2, bas. leng. 19·4, zyg. br. 14·4, int. orb. br. 4·5, br. brain case 12, mol. ser. 3, diastema 5·5, nasals 9·8 × 3·5.

A third specimen (juv. ♀) from Waynek is slightly smaller.

102. *Graphiurus pretoriae*, spec. nov.

A grey species having a very bushy tail with a white tip, and underparts without a trace of vinous colouring. The skull is of about the same size as that of *G. murinus* from Port St. Johns, but the teeth are smaller, and the white tipped and very bushy tail at once distinguish it from that species.

Type: Old ♂, Little Wonderboom, Pretoria, 22.9.12. "H. and B. 86, tail 80, hind foot 15.5, ear 15." Skull: gr. leng. 27.3, bas. leng. 20.7, zyg. br. 15.3, int. orb. br. 4.5, br. brain case 12.3, mol. ser. 3, diastema 6, nasals 10.2×3.2 , height at bullae 10.5, at nasion 5.3.

103. *Graphiurus Streeteri*, spec. nov. ✓

A very bushy-tailed species with a strong suffusion of vinous pink on the underparts and all four feet. The skull is much larger than in *G. murinus*, its only relationship to which lies in the underparts being coloured, but even in this the shade of colouring is very much brighter. This might be thought to be Smith's *M. erythrobronchus*, were it not that that species has been definitely assigned by all authorities (including Smith) to the more richly coloured specimens of *G. murinus*, and, in addition, the very bushy tail is so very marked that the two species could not be confused.

Type: Old ♂, ex coll. F. Streeter, Hector Spruit, Transvaal, 11.3.10. "H. and B. 101, tail 101" (with hairs). Hair at tip of tail 24 mm. Skull: gr. leng. 30.5, bas. leng. 23.3, zyg. br. 16, int. orb. br. 4, br. brain case 12.5, mol. ser. 3.1, nasals 12×3.4 , height at bullae 10.1, at nasion 5.7.

The cotype is not sexed, but is most likely a ♀. Its tail shows the peculiar shortening sometimes noticed in individuals in this family, in this case being reduced to about half the normal length. The skull is smaller than in the type, measuring in greatest length 29 mm., and other measurements in proportion. A third specimen with a broken skull is of about the same size as the cotype, and the tail intermediate in length between those of the type and cotype.

104. *Graphiurus Eastwoodae*, spec. nov.

A species most closely related to *G. ocularis*, but with smaller teeth and skull, and in colour entirely lacking the vinous tinge on the chest and face, this tinge being replaced by dull yellowish white on the underparts though not on the face.

In general appearance grey with a large admixture of dark brown on the upper surface of the body; tail brown with the external half of the longer hairs white, the white increasing in quantity to the tip; under surface of body yellowish white down the middle line and region of the throat, merging into grey on the sides; hands and feet brown on the upper surface, terminating abruptly at the toes, which are pure white; forehead darker than the body, with a lighter coloured patch down the middle line to the nose. Whiskers black with lighter coloured tips, the longest bristles measuring about 48 mm.

Type: Pres. by Miss A. Eastwood, Woodbush, Transvaal.

Skull: Gr. leng. 30.8, bas. leng. 24, zyg. br. 17.8, int. orb. br. 5, br. brain case 14.1, mol. ser. 2.9, nasals 12.2×3.8 , height at bullae 10.2, at nasion 5.6, bullae 10.2. Hair on lower back 12, at tip of tail 35.

105. *Tatera nyassae*, Wr.

1, Katanga (Neave).

106. *Tatera leucogaster*, (Ptrs.).

5, Boror, P. E. Afr. (Kirby and Roberts).

The oldest specimen is considerably larger than the next in size as seems to be not infrequently the case in members of the genus, these measuring respectively: H. and B. 184 and 167-170, tail 173 and 140-150, hind foot 40 and 32(?) - 36, ear 25 and 22-23. Skull: gr. leng. 45.2 and 39.7-41.8, bas. leng. 35.4 and 31.5-32.3, zyg. br. 23.9 and 20.3-21.5,

mol. ser. 6·5, diastema 12·2 and 10·3–11·5, bullae 12·1 and 10·5–11·2, nasals 18 × 4·8 and 15·2–16·5 × 4·2–4·5, br. brain case 18·9 and 16·8–18·2.

The measurements of the skulls are quite in accord with the condition of the teeth, leaving no doubt as to all the specimens being referable to the same species.

107. *Tatera panja*, Wr.

1 ad. ♀, 30 miles above Tete (Alexander).

? 3, Boror (Kirby and Roberts).

4, Hector Spruit, Transvaal (Streeter).

An old specimen from Hector Spruit gives the following measurements:—"H. and B. 136, tail 138": hind foot (skin) 29·5. Skull: br. leng. 38·8, bas. leng. 29·3, mol. ser. 6·1, bullae 10·2. Younger specimens from Hector Spruit measure in the greatest length of the skull 35–36 mm.

The Boror specimens are in a bad state of preservation, but seem to be darker. The skulls are of the same size as those from Hector Spruit.

108. *Tatera lobengulae*, De Wint.

1 ♂, Essex Vale (Selous).

1 yg. ♀, 1 old ♂, Tete (Grant).

109. *Tatera lobengulae mashonae*, Wr.

1 old ♂, Mazoe (Darling).

5, Zimbiti, Beira (Sheppard).

1 yg. ad., 1 ad. ♂, Hector Spruit (Streeter).

110. *Tatera lobengulae bechuanae*, Wr.

1 ♂, Malopo (Woosnam).

111. *Tatera lobengulae*, subsp.?

1 ♂, 5 ♀, Wonderfontein, Transvaal (Jameson).

2 ♂, Zoutpan, Pretoria District (Jameson).

1 ♀, Suburbs, Pretoria (Roberts).

1 ♀, Vryburg, B.P.

These specimens cannot be definitely assigned to any of the races of this species until larger series are available for comparison.

112. *Tatera miliaria*, Wr.

2 ♂, Deelfontein.

1 very old ♀, Modder River.

113. *Tatera miliaria stellae*, Wr.

1 yg. ad. ♀, Kuruman (Dent).

114. *Tatera miliaria salsa*, Wr.

1 ♂, Woodbush (Grant).

6 ad., 2 juv., Tzaneen Estate (Jameson).

115. *Tatera draco*, Wr.

2 old ♀, 1 ad. ♀, 1 yg. ad. ♂, 4 juv., Wakkerstroom (Jameson and Roberts).

116. *Tatera brantsi*, (A. Sm.)?

3 ad., 2 juv., Hartebeestfontein, near Warmbaths, Transvaal (Jameson).

1 juv., Florida, Transvaal (Jameson).

117. *Desmodillus auricularis*, (A. Sm.).

1 ♂, Hanover, C.P. (Shortridge).

1 ♀, Kuruman (Woosnam).

118. *Otomys Brantsi* (A. Sm.).
 1, Anenous, C.P. (Grant).
 2 in spirits, Victoria West (P. D. Morris).
119. *Otomys Brantsi luteolus*, Thos. and Schw.
 1 ♀, Deelfontein, C.P. (Sloggett).
120. *Otomys unisulcatus*, Cuv.
 1 ♂, Hanover, C.P. (Shortridge).
121. *Otomys unisulcatus Granti*, Thos.
 1 ♀, Deelfontein (Sloggett).
122. *Otomys unisulcatus Broomi*, Thos.
 1 ♀, Klipfontein (Grant).
123. *Otomys Sloggetti*, Thos.
 1 ♀, Hanover, C.P. (Shortridge).

124. *Otomys Turneri*, Wr.
 7 ad., 3 juv., Wakkerstroom (Jameson and Roberts).

One of these was recorded by Jameson as *O. Brantsi*. A very old ♂ is peculiar in having the hairs on the cheeks very stiff and spine-like. The fur on the back of these specimens is of the same length as in the specimen of *sloggetti* from Hanover, and the only apparent difference lies in the length of the molar series, which is larger in *turneri*.

125. *Otomys irroratus*, (Brants).
 3, Knysna (Rex).
 2, Grahamstown.
 5, Port St. Johns (Swinny).
 1, Malvern, Natal (Jameson).
 3, Wakkerstroom (Jameson and Roberts).
 4, Pretoria (Noomé and Roberts).
 2, Hector Spruit, Transvaal (Streeter).
 1, Mazoe (*auratus*) (Darling).
126. *Otomys irroratus cupreus*, Wr.
 9, and 2 in spirits, Tzaneen Estate (Jameson).
- 127 *Otomys irroratus nyikae*, Wr.
 1 ♂, Boror (Kirby and Roberts).

128. *Otomys Anchietae*, Boc.
 20, N.W. Rhodesia (Wilde).

These specimens are all very much larger than those from South Africa, the skulls measuring in old ♂♂ up to 50 mm. in length. None of them show the aberrant character in M^1 to which Wroughton has particularly drawn attention in his paper on the genus. The number of laminae in M^3 varies by one more or less, principally in the ♀♀.

129. *Otomys laminatus*, Thos. and Schw.
 1 old ♂, 3 very young, Port St. Johns (Swinny).

Although the hindmost molars in the young specimens are not fully developed, they still clearly show that the number is more than seven. The very old specimen is rather whiter on the under surface of the body than the generality of specimens of *O. irroratus*.

130. *Malacothrix typicus*, A. Sm.
 1 ♂, Deelfontein (Sloggett).

131. *Dendromus longicaudatus*, spec. nov.

Very similar to *D. melanotis*, but with a longer tail and larger skull; in colour, also, rather brighter rufous in general effect. Type: Old ♂, ex collection H. L. Jameson, Tzaneen Estate, Transvaal, 21.7.07. "H. and B. 76, tail 107, hind foot 19, ear 16.5"; skull: gr. leng. 23, bas. leng. 17, gr. br. 11.8, molar ser. 3.3.

132. *Dendromus mesomelas*, (Brants).

2. Knysna (?), skulls in skins.

These two specimens are without labels, but one at least of the skins is prepared like those of Rex of Knysna.

133. *Dendromus Ayresi*, spec. nov.

Rather darker coloured, as a rule, than *D. mesomelas* and smaller in size, but like that species in having a dorsal stripe in adults, and with claws to four toes.

This species is represented by four fully adult and five younger specimens taken by H. H. Swinny, and one, like the five, taken by Shortridge, at Port St. Johns. The following table of measurements of striped and unstriped specimens will show that there is good reason for supposing the former to be fully adult and the latter to be younger:—

		Striped ♂♂ (2).	Striped ♀♀ (2).	Unstriped (5).
H. and B....	...	75-76	71 (?) -76	68-76
Tail	...	103	95-96	89-95
Hd. foot	...	19-20	17-19	18-19
Ear	...	14-15	14	11-13
Skull:—				
Gr. leng.	...	23.5	22.3	21-22.6
Bas. leng.	...	17.5	16.5-17	15.5-16.5
Zyg. br....	...	11.5	11.4	10-11.7
Mol. ser.	...	3.4-3.6	3.2-3.3	3.1-3.3

I have named this species after my old friend the well-known naturalist, Mr. Thomas Ayres; he remitted some specimens to Mr. Sclater, who referred them to *D. mesomelas* in his "Fauna of South Africa."

134. *Dendromus pumilio*, (Wagner) (?).

At Port St. Johns another striped species is found which is coloured like *D. mesomelas*, but it is smaller even than *Ayresi*: and as the unstriped specimens are smaller than the striped and measure about the size as Wagner's *Mus pumilio*, it is not unlikely that the species was described from a young individual.

Specimens in the collection measure as follows:—

		Striped ♂♂ (4).	Striped ♀♀ (4).	Unstriped (4).
H. and B. ...	...	68	68-69	61-64
Tail	...	92	81-87	81-89
Hd. foot	...	18-19	16-17	16-19
Ear	...	11.5-13	11-12	12
Skull:—				
Gr. leng...	...	22	20.3-21.2	20.2-21
Bas. leng.	...	15.8-16.5	15-15.7	15.2-15.6
Zyg. br....	...	11-11.3	10.4-10.5	10.6-11
Mol. ser.	...	3.2-3.5	3-3.1	3.2

An old striped ♀ collected by Dr. H. L. Jameson at Sweetwaters in Natal is very slightly larger than these ♀♀ from Pondoland, but still not as large as the ♂♂.

135. *Dendromus Jamesoni*, Wr.

3, Tzaneen Estate (Jameson); also 1 in spirits.
7, Port St. Johns (Swinny).

In spirits: 1, Knysna, and 2, Lydenburg.

This species is the smallest of the group found in South Africa, and, as with the preceding, the unstriped specimens are invariably the smallest in the series. In colour it is like *D. mesomelas*, but has a broader dorsal stripe.

As there is no material difference in the size between specimens from Tzaneen and Port St. Johns, I have included them all under one head in the following table:—

		Striped ♂♂ (6).	Striped ♀♀ (2).	Unstriped (1♂, 1♀).
H. and B. ...	...	58-62	60	53-55
Tail ...	...	75-85	75	78-83
Hd. ft. ...	...	16-19	16	16-18
Ear ...	...	11-13	13	12
Skull:—				
Gr. leng. ...	...	19-20·1	19	19-19·4
Bas. leng. ...	...	13·7-14·7	14-14·1	14
Zyg. br....	...	10-10·5	10-10·4	10-10·2
Mol. ser. ...	...	3- 3·2	3	3·2-3·4

136. *Dendromus Whytei*, Wr.

1 old ♀, 1 young from same nest, Boror (Kirby and Roberts).

The young specimen has not yet cut its last back tooth, but the skull measures 17·5 as against 20 in the mother. From this it would seem that, as with the majority of insectivorous mammalia, the skull is not very much smaller in the very young than in the fully adult. This supports the supposition that the unstriped individuals from Port St. Johns are the young of the species next in size above them in the scale, although it still does not prove that a species which never assumes the dorsal stripe does not occur in South Africa. I may here mention that in the series of striped specimens of the three species found at Port St. Johns nearly every month of the year is represented in the dates of capture; whereas, in the unstriped specimens, only the winter months are recorded. The details are as follows:—

D. Ayresi, one in March, one in May, and five in June.

D. pumilio (?), one in each month, April, June, August, and September.

D. Jamesoni, two in June.

137. *Steatomys pratensis*, Ptrs.

2 ♂, 1 ♀, 1 juv. ♂, Boror (Kirby and Roberts).

1 ♂, Tete (Grant).

1 ♂, Hector Spruit (Streeter).

2 ♂, 6 ♀, and 2 in spirits, Tzaneen Estate (Jameson).

138. *Steatomys Bocagei*, Thos.

1 ♂, Angola (Ansorge).

139. *Saccostomus campestris*, Ptrs.

1 ♂, 2 ♀, Tzaneen Estate (Jameson).

1 juv. ♀, Zimbiti, Beira.

1 in spirits, Grahamstown (? , skull crushed).

140. *Saccostomus mashonae*, De Wint.

2 ♂, 1 ♀, Hector Spruit (Streeter).

1 in spirits, Louws Creek, Barberton (Gough).

141. *Mus norvegicus*, Erxl.
Maritzburg, Hilton Road, Johannesburg, Potchefstroom, Pretoria,
Beira, and Boror.
142. *Mus rattus*, Linn.
Potchefstroom, Johannesburg, and Pretoria.
143. *Mus chrysophilus*, De Wint.
1 ♂, Mazoe (Darling).
144. *Mus chrysophilus acticola*, Thos. and Wr.
1 ♀, Beira (Grant).
145. *Mus chrysophilus ineptus*, Thos. and Wr.
1 ♂, Tete (Grant).
146. *Mus chrysophilus tzaneensis*, Jameson.
8. Tzaneen Estate (Jameson).
1 ♂, Malvern, Natal (Jameson).
147. *Mus chrysophilus pretoriae*, subsp. nov. ✓
Similar in colour to the specimen from Tete (*ineptus*), but tail much shorter, in the same proportion as in *M. c. tzaneensis*.
Type: Old ♀, Fountains, Pretoria, 10.9.12. "H. and B. 140, tail 155, hind foot 27, ear 20." Skull: gr. leng. 36·8, bas. leng. 28·5, zyg. br. 18, mol. ser. 5·8, diastema 8·7, nasals 14 × 4, bullae 6·3.
The cotype is an old ♂ taken at the same place and on the same day, and measures: "H. and B. 135, tail 150, hind foot 26, ear 19·5." The skull is of the same size as the type. An old ♂ and young ♀ taken by Dr. Jameson at Zoutpan in the Bushveld of Pretoria District are apparently identical with this subspecies.
148. *Mus namaquensis*, A. Sm.
1 ♂, Klipfontein (Grant).
149. *Mus namaquensis lehochla*, A. Sm.
1 ♀, Kuruman (Woosnam).
150. *Mus namaquensis centralis*, Thos. and Schw.
1 ♀, Deelfontein (Sloggett).
151. *Mus namaquensis auricomys*, De Wint.
1 ♀, Essex Vale, Mashonaland (Selous).
152. *Mus namaquensis monticularis*, Jameson.
1 ♂, 3 ♀, Wonderfontein (Jameson).
7 ♂, 7 ♀, Johannesburg (Jameson).
2 ♂, 2 ♀, Pretoria (Roberts).
153. *Mus Woosnami*, Schwann.
1 ♀, Kuruman (Dent).
154. *Mus Moggi*, spec. nov. ✓
Apparently allied to *Mus muscardinus*, Wagner, but with a longer tail, equal in length to the head and body.
General colour above mixed tawny and light brown, the individual hairs being dark ashy brown for the greater part, the exposed parts tawny and the longer projecting hairs brown; forehead, cheeks, and flanks greyer; a dark ring round the eyes, extending to the nose; hairs on the

under surface of the body pure white throughout; fore feet coloured like the flanks, the fingers, hind feet, and sides of limbs pure white. The hairs and the fore and hind feet are short and crisp, extending as bristles on the toes beyond the tips of the claws, which are short, strong, and much curved. Entire tail dark brown, sparingly covered with short brown and a few white hairs. Feet very short. Ears rounded, lightly covered for the greater part with tawny brown hairs. Whiskers black, with lighter coloured tips, very long, measuring about 38 mm. in the longest. Fur of the back about 8 mm., the longer projecting bristles about 14.

Type: Old ♂, Zoutpan, Pretoria District, 22.12.09. "H. and B. 137, tail 137, hind foot 18, ear 20." Skull: gr. leng. 31·6, bas. leng. 25·8, zyg. br. 16·4, int. orb. br. 4·5, br. brain case 13·7, mol. ser. 4·4, diastema 8·5, bullae 7·2, nasals 11·8 × 3·5.

This specimen was captured at the foot of an old hollow thorn tree, in which, no doubt, it had its habitation. I have named it after my friend Mr. Ernest Mogg, who was with me on the occasion when this specimen was taken and on many other collecting excursions.

155. *Mus*, spec.?

1 yg. ad. ♂, Magaliesberg (Roberts).

This specimen differs from all others in the collection, but not being quite adult, I have left the question of its identity open until more specimens are obtained.

156. *Mus paedulcus*, Sund.

4 ♂, Port St. Johns (Swinny).

157. *Mus colonus*, Brants.

1 ♂, 3 ♀, 1 juv., Port St. Johns (Swinny).

158. *Mus caffer*, A. Sm.

4 ♂, 1 ♀, 2 juv., Port St. Johns (Swinny).

With regard to this and the two preceding species, the series of skins call for some comment. The series is so small in each case that I am not at all sure that all the specimens are not referable to one and the same species. The four males referred to *paedulcus* are in general effect on the upper surface of body dull tawny with a spare admixture of long black bristles, which show up clearly on the lower back; the smallest specimen has the molars still unworn, and the largest very much worn.

In the series of skins of *colonus*, one of the females is coloured like the four males of *paedulcus*, and, though its teeth are still unworn, at least seven pairs of mammae can be counted on the flanks; but its skull and measurements are precisely those of the other specimens of *colonus*. The four specimens are much blacker on the upper surface of body than in those of *paedulcus*. None of the skulls exhibit signs of age.

In the series of skins of *caffer*, none of the teeth are worn, and two are obviously very young. In them the hair is shorter and closer and of a more uniform slate grey in both the small and large specimens. But the smallest specimen in the whole of the three series is a very young one which is coloured like the specimens of *colonus*, and also has long silky hair. Were it not for this specimen I should have placed all the specimens as being of one species, the three series representing as many stages of growth. The molar series, it will be observed, is the same size throughout,

but the three series are well marked off in size in other respects, and on these grounds and the presence of the very young specimen of *colonus* and the two young but larger specimens of *caffer*, it seems advisable to keep the three series apart. Whether my identification is right is another matter, as the original descriptions are none to clear.

The following will illustrate the range of variation in each case:—

			<i>paedulcus</i> .	<i>colonus</i> ♂ and ♀♀	<i>caffer</i> .
H. and B. ...	...	...	118 -137	111 and 99-102	85 -90
Tail ...	...	...	108 -132	108 and 101-107	80 -84
Hd. ft. ...	...	...	23 - 25	25 and 23	21 -22
Ear ...	...	...	16 - 20	16 -18	16 -17
Skull:—					
Gr. leng.	...	...	30·5- 32·6	26·9-28	25·2-25·8
Bas. leng.	...	...	25·7- 27·7	21·6-23	19·4-19·8
Zyg. br. ...	...	...	15·4- 15·5	13·2-13·4	12·3-12·9
Mol. ser.	...	...	4·6	4·6	4·6

The very young specimen of *colonus* is given as: H. and B. 56 mm., and the two young of *caffer* as: 65-68, respectively.

159. *Mus coucha*, A. Sm.

- 1 ♂, 1 ♀, Potchefstroom (Ayres).
- 1 ♀, Wonderfontein (Jameson).
- 2 ♂, 2 ♀, Houghton Estate, Johannesburg (Jameson).
- 1 ♂, Wakkerstroom (Roberts).
- 1 ♂, 2 ♀, Zoutpan, District Pretoria (Jameson).
- 1 ♂, Pretoria (Roberts).
- 1 ♂, 1 ♀, Boror (Kirby and Roberts).

The number of mammae is, unfortunately, not given on the labels of any of the specimens; but the tail is always shorter than the head and body, and the skull in old specimens does not exceed 27 mm. in greatest length (*vide* table of measurements given hereafter).

160. *Mus natalensis*, A. Sm.

- 2 ♀, Malvern, Natal (Jameson).
- 1 ♂, 4 ♀, Wakkerstroom (Jameson).
- 6 ♂, 6 ♀, 6 yg., Tzaneen Estate (Jameson).

There is very little difference between specimens from Natal and Zululand, which have been named *zuluensis* by Thomas and Schwann, and *M. microdon* of Peters from Tette; and as the last-named writer seemed to find but little difference between his species and Smith's *natalensis*, it is obvious that the latter name should be used with reference to the southern form, and *microdon* distinguished as a sub-species.

In this species the tail is normally of about the same length as the head and body, while the skull is of about the same size as, or perhaps a little smaller than, that of *M. paedulcus*. The number of mammae in all recorded cases is given as eighteen.

161. *Mus natalensis microdon*, Ptrs.

- 1 yg. ♂, Tette (Grant).
- 5, Zimbiti, Beira (Sheppard).

These specimens are whiter on the under surface of the body, and on this *microdon* may be distinguished from *M. natalensis*.

162. *Mus socialis*, spec. nov.

Very similar to *M. natalensis*, but with twenty-four mammae and the tail much shorter than the head and body; colour very similar to *M. pudulcus* (specimens from Port St. Johns), but tail shorter than in that species.

Type: ♀, ex coll. Dr. H. L. Jameson, Wonderfontein, Transvaal. "H. and B. 108, tail 93, hind foot 21." Skull: gr. leng. 29, basal leng. 23·6, mol. ser. 4·5.

A ♂ from Potchefstroom (Ayres) is probably referable to this species: it measures "H. and B. 120, tail 101, hind foot 22." Skull: gr. leng. 29·8, bas. leng. 24·9, mol. ser. 4·6.

163. *Mus*, spec.?

3 ♂, 5 ♀, Hilton Road, Natal (Jameson).

These specimens are slightly smaller than those of *natalensis* recorded above, and in all cases the ♀♀ are labelled as having only sixteen mammae. None of them are very old, however, and it is possible that they are referable to young adults of *natalensis*.

The following are measurements of adult specimens of *coucha*, *natalensis*, *socialis*, and those from Hilton Road:—

	<i>coucha</i> . (13 spec.)	<i>natalensis</i> . (17 spec.)	<i>natalensis</i> ? (Hilton Road). (8 spec.)	<i>socialis</i> . (2 spec.)
H. and B. ...	83 - 103	110 - 131	100 - 110	108 - 120
Tail ...	70 - 84	109 - 123	95 - 110	93 - 101
Hd. ft. ...	20 - 22	21 - 25	22 - 25	21 - 22
Ear ...	16 - 19	16 - 20	17 - 19	?
Skull:—				
Gr. leng. ...	26 - 27	28·4- 32·3	27 - 28·1	29 - 29·8
Bas. leng. ...	20·5- 22	23 - 25·3	22·2- 23·3	23·6- 24·9
Zyg. br. ...	13 - 13·7	13·5- 15	13 - 15·5	—
Mol. ser. ...	4·5- 4·7	4·5- 5·1	4·5- 4·9	4·5- 4·6

164. *Leggada minutoides*, (A. Sm.).

Very large series, Port St. Johns (Swinny).

1 ♂, 1 ♀, Pirie, Kingwilliamstown (Stenning).

The large series from Port St. Johns represents all stages of adult growth, and displays considerable variation in shade of colour between rufous and brown, without, however, regard to size or sex. The following is the range of variation in size between fairly young and old specimens: H. and B. 45-65, tail 40-54, hind foot 12-14, ear 9-11. Skull: gr. leng. 18-20·5, bas. leng. 13·5-15, zyg. br. 9·2-10·1, mol. ser. 2·8-3·4.

165. *Leggada bella marica*, Thos.

1 ♂, Beira (Sheppard).

166. *Leggada bella*, subsp.?

2 ♀, Tzaneen Estate (Jameson).

167. *Leggada deserti*, Thos.

1 ♂, Pretoria (Roberts).

168. *Thamnomys dolichurus*, (Smuts).

16, Port St. Johns (Swinny).

1 in spirits, Malvern, Natal (Jameson).

169. *Thamnomys surdaster*, Thos. and Wr.

1 ♂, Katanga (Neave).

170. *Cricetomys gambianus viator*, Thos.
1 ♂, with skull, 1 ♀, without skull, Boror (Kirby and Roberts).
171. *Cricetomys gambianus preparator*, Wr.
1 ♀, E. Ruwenzori (Woosnam).
172. *Acomys Selousi*, de Wint.
1, Beira (Sheppard).
173. *Acomys spinosissimus*, Ptrs.
1. Boror (Kirby and Roberts).
174. *Dasymys incontus*, Sund.
1 very old ♂, Hector Spruit (Streeter).
14, Tzaneen Estate (Jameson).
1 ♂, N. W. Rhodesia (Wilde).
175. *Arvicanthis pumilio*, (Sparrm.).
6, Knysna (Rex).
2, Grahamstown (?).
176. *Arvicanthis p. cinereus*, Thos. and Schw.
1 ♂, Klipfontein (Grant).
177. *Arvicanthis p. meridionalis*, Wr.
1 skin without skull, Carnarvon (Littledale).
178. *Arvicanthis p. griquae*, Wr.
1 ♀, Kuruman (Woosnam).
1, Bechuanaland (flat skin and skull) (pres. R. W. Hadron).
179. *Arvicanthis p. Chakae*, Wr.
10, Port St. Johns (Swinny).
? 1 ♀, Pietersburg (Jameson).
180. *Arvicanthis p. Moshesh*, Wr.
1 ♂, 1 ♀, Hilton Road, Natal (Jameson).
2 ♂, 4 ♀, Wakkerstroom (Jameson and Roberts).
2 ♂, 2 ♀, Wonderfontein (Jameson).
1 ♂, Johannesburg (Jameson).
3 ♂, Potchefstroom (Ayes).
2, Pretoria (Roberts).
1, Waterberg (Jameson).
181. *Arvicanthis p. dilectus*, Wr.
4 ♂, 2 ♀, Tzaneen Estate (Jameson).
182. *Arvicanthis dorsalis*, (A. Sm.).
2 ♂, 1 ♀, Hector Spruit (Streeter).
6 ♂, 6 ♀, Tzaneen Estate (Jameson).
4, Boror (Kirby and Roberts).
183. *Arvicanthis d. calidior*, Thos. and Wr.
1 ♂, Tambararra (Grant).
184. *Pelomys fallax*, Ptrs.
1 old ♂, 1 young ad. ♂, Boror (Kirby and Roberts); also 1 skull.

These specimens agree with Peters' description, and clearly prove that the specimens from south of the Zambezi are referable to another long-tailed species. The old ♂ is slightly more tawny coloured on the back than the young ♂, which has the molars still untouched by wear.

Peters' ♀ specimen would seem to have been a very young one, judging by the measurements recorded and the figure of the skull. The following measurements may therefore be of interest:—

	Old ♂.	Ad. ♂.	Young ad. ♂.
H. and B. ...	161	—	130
Tail ...	137	—	120
Hd. ft. ...	30	—	31
Ear ...	20	—	17
Skull:—			
Gr. leng. ...	36·5	34·6	33·1
Bas. leng. ...	30	29·4	27
Zyg. br. ...	17·6	17·3	16·8
Mol. ser. ...	6·7	6·9	6·3
Nasals ...	13 × 4	13 × 3·7	12·5 × 3·5
Br. M ¹ ...	2·1	2·3	2·2

185. *Pelomys australis*, spec. nov.

Similar to *P. fallax*, but with the tail longer than the head and body. (See *P. Z. S.* 1907, p. 779).

Type: Ad. ♂, ex coll. C. H. B. Grant, Mazambeti, Beira (B. M. No. 7. 6.2.51), now in the collection of the Transvaal Museum. "H. and B. 153, tail 165, hind foot 30, ear 18" (C. H. B. G.). Skull: gr. leng. 35·3, bas. leng. 28·5, zyg. br. 16·8, mol. ser. 6·5, nasals 14 × 4, bullae 6.

There are also two old specimens from N. W. Rhodesia (Wilde), which are somewhat larger than the type, but with the same proportionate length of tail. There are also five younger specimens from the same place which are given as having tails of about the same length as the head and body and a sixth with a tail much shorter than the head and body; but, as it seems to be the rule that the growth of the tail is checked at a certain age in a number of different species of rodents, while the head and body still continue to grow even to very old age, I think it not unlikely that these six specimens are referable to a different species. This is supported in this case by the fact that the single large one in the series of six is obviously older than the other five, though of the same age as one of the two with very long tails. Should these specimens from N. W. Rhodesia therefore prove to belong to two species, we have the interesting overlapping of the north and south of Zambezi species in the higher reaches of that river. This I have no doubt is the case, judging by comparison of specimens of the same age. The six specimens are not, however, referable to *P. fallax*, but more likely a western race linking up with the species found occurring in Angola. In these specimens measurements of the hind foot are given as varying from 31 to 37 mm. without regard to the size of the other parts.

The following table of measurements will illustrate the facts above mentioned:—

	Old ♂ and ♀.	Old ♂.	Younger ♂♂ and ♀.
H. and B. ...	163 - 164	165	135 - 155
Tail ...	170 - 177	156	133 - 156
Hd. ft. ...	32 - 36	35	31 - 37
Ear ...	19 - 20	20	18 - 20
Skull:—			
Gr. leng. ...	37·4- 37·5	37·5	33·1- 34
Bas. leng. ...	31 - 31·5	30·8	27 - 27·6
Zyg. br. ...	18·4- 19	18·3	16·6- 18

186. *Myatomys albicaudatus fumosus*, Thos. and Schw.
 1 ♀, 2 yg. ♂, 2 juv., Wakkerstroom (3 Roberts, 2 Jameson).
 ? 1, Modderfontein, Transvaal (P. J. Pohl) (skull in skin).
187. *Mystromys albipes*, Wagn.
 2 ♀, Wonderfontein (Jameson).
188. *Petromys typicus*, A. Sm.
 1, Klipfontein (Grant).
189. *Heliophobius argenteo-cinereus*, Ptrs.
 8, Boror (Kirby and Roberts).

It is not quite clear from a study of these specimens that two species do not occur side by side, but as the differences which can be observed are confined to the two sexes, it is possible that this species is dimorphous.

An adult male with five back teeth has a white blaze on the forehead, long nasals produced backwards level with or slightly beyond the fronto-premaxillary suture, and with the outer lateral nasal sutures straight. A smaller ♂, with the hindmost molar only just appearing, has a smaller white blaze and the nasals are like those of the larger specimen. Four large and one small ♀ have four or five back teeth, which show some remarkable anomalies in their rate of growth and number on either side and jaws; in them the nasals are shorter, bulge out laterally towards the back, and then narrow off either to a point or a semicircle, while the sides of the premaxilla are produced backwards behind them, thus forming a forward projection of the frontals where they meet the nasals. In a very much smaller ♂ specimen the nasals are similar to those of the ♀♀; it has the rudiment of a milk tooth on one side of the lower jaw, three back teeth of the normal size and the fourth just beginning to show; it is too young to be of use in settling the question of whether two species occur side by side or whether all the specimens are referable to one species. The teeth present so many anomalies in the series, that a brief discussion may not be out of place.

The hindmost molar appears to grow out in two divisions, the posterior half of which is often only half the length of the anterior when it has grown to the level of the adjoining molar. The first premolar is not always present, or may be present on one side only. The second premolar (if it be a premolar) is small and of the same size throughout the series, including the very young male; and the remaining molars are apparently equivalent to those of *Georychus*. The roots of the molars in the upper jaw curve strongly outwards, and in the lower jaw are either straight or curved slightly inwards. The rate of growth of the hindmost molar is, more often than not, much faster on one side than on the other, so that though the one may present a worn appearance that on the opposite side may not yet have reached the level of M².

The following is a table of measurements given in four divisions:—

	♂♂.		Largest ♀♀.	Smallest ♀♀.	Youngest ♂.	
H. and B. ...	151	-182	165	-179	145	—
Tail ...	12		8	-14	13	—
Hd. ft. ...	31	-33	28	-31	28	—
Skull:—						
l-cond. lg. ...	46	-47·8	40·5-	41·5	40	34·6
Nas. cond. leng.	41	-43·3	36·3-	36·6	36·4	30·7
Zyg. br. ...	30·3-	32·4	27·3-	29·2	27·3	25
Br. case ...	17·3-	18·4	16·1-	17·2	15·8	15·5
Nas. leng. ...	14·4-	15·1	11·2-	12·8	13	10·1
Nas. br. ...	4·7-	4·9	4·2-	4·9	4·2	3·7

190. *Bathyergus suillus*, (Schreb.).

20, Knysna (Grant and Rex).

191. *Bathyergus janetta*, Thos. and Schw.

1 ♀, Port Nolloth (Grant).

192. *Georychus capensis*, Pall.

1 old ♂, Stellenbosch (S. A. Mus.).

? 1 juv. in spirits. No locality indicated (pres. Dr. Breyer).

193. *Georychus capensis canescens*, Thos. and Schw.

1 ad., Knysna (?).

1 grav. ♀, 5 juv. in spirits, Knysna (Rex).

The young are born with a white muzzle.

194. *Georychus Yatesi*, spec. nov. ✓

Similar in coloration to *G. capensis*, but with the upper surface of body rich buff-orange, and the head darker; the skull and teeth also show distinct characters.

Colour: eyes, ears, and forehead all marked with a small patch of pure white; muzzle, tail, and feet also pure white; forehead black to the white muzzle, this colour extending laterally below, but not joining behind, the eyes, and backwards above the eyes until lost in an admixture of buff-orange in the region of the white frontal spot; whole of the rest of the upper surface of head and body rich buff-orange, with blackish tips to the longer hairs, which are most conspicuous just above the tail and on the lower back: the sides of the upper surface soon lose the blackish coloured tips and the flanks are clear buff-orange: under surface of body slightly paler than the flanks. The hairs throughout the body are dark brown for the basal half. Skull: in general appearance similar to that of *G. capensis*, but with a larger brain case, and a more conspicuous outward projection of the frontals in the anterior angle of the orbital region. Cheek teeth much larger in the case of the two first than in *capensis*, while the hindmost in the upper jaw is smaller and differs in pattern. The hindmost molar in the lower jaw is only just beginning to show on the one side (a juvenile character), while on the other it is not much larger, but blackened at the tip, seeming to indicate that growth had ceased before the tooth had attained its full size. This would seem to be an anomaly, as the animal was tough to skin and the skull is obviously that of a fully adult specimen. The type was caught at Belfast, Transvaal, by the sons of E. E. Yates, Esq., as it was running across the road after a heavy hailstorm. Knowing that I was in search of more specimens of a certain golden mole, of which my mother had caught a single specimen at Belfast (see *Chryso spalax pratensis*), Mr. Yates very kindly sent this to me alive. Its discovery is quite as interesting as that of the golden mole I was in search of, for it forms yet another connecting link between the Cape Peninsula and Transvaal highveld fauna.

Measurements taken in the flesh before *rigor mortis* had set in are: H. and B. 180, tail 25, hind foot 32. Skull (dry): cond. inc. leng. 49, cond. nasal leng. 45, bas. leng. 40, zyg. br. 35·2, br. premax. 10, int. orb. br. 9·5, at outward projecting process mentioned above 13·2, immediately in front of process 10·6, br. brain case 19, mol. ser. (crown) 8·8, diastema 15·5, leng. M¹ 2·3, M² 2, M³ 2·5, M⁴ 2, breadth at M³ 8·4.

195. *Georychus beirae*, Thos. and Wr.

1 ♂, Beira (Grant).

4, Beira (Sheppard).

196. *Georychus*, spec. ?1 ♀, juv., Knysna (Rex, *ex* Daneel).

This specimen is similar to the young of *G. hottentottus* from the same place, as regards size; but it is altogether paler in colour and has a small white blaze on the forehead. This must, I think, belong to a distinct species allied to *G. Darlingi*. I also captured a similarly marked specimen in the Dargle district, but it is unfortunately not now in the collection; it was taken in the burrow of *Chrysochloris*, a specimen of which it had severely mauled in the same trap the day before.

197. *Georychus Darlingi*, Thos.

1 ♂, Salisbury (Marshall).

Thanks to the kindness of Mr. Hewitt, curator of the Albany Museum, I have been able to examine the specimens of *G. Darlingi* from Grahams-town mentioned by Sclater in his "Fauna of South Africa." They are not referable to *Darlingi*, but another undescribed species allied to it. A curious feature of these specimens is that only the ♂♂ have a white frontal mark, the ♀♀, which are slightly smaller, lacking it. Under the circumstances I have thought it advisable not to apply a name, as it is possible that the type of one of the three species now relegated to the synonymy of *hottentottus* may have been a ♀ of this species. In these specimens the premaxilla usually closes up behind the nasals, as in *Darlingi*, but on the whole they are smaller and offer slight differences in other respects.

198. *Georychus amatus*, Wr.

1 ♂, Katanga (Neave).

199. *Georychus Bocagei*, De Wint.

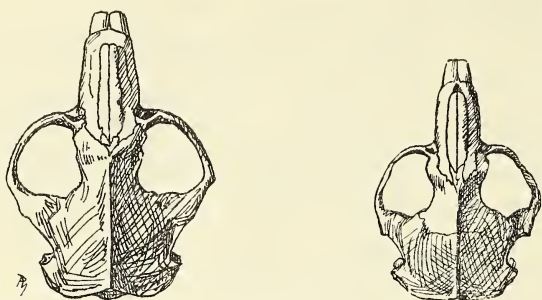
1 juv. ♂, Angola (Ansorge).

200. *Georychus hottentottus*, (Less.). (Text fig. 6.)

16, Knysna (Rex).

The nasals in old specimens are blunt at the hinder end, near which is the broadest part, then taper forwards to the tips in straight lateral lines: they measure 3·5 mm. across at the back and 2 mm. at the tip. There are six very old specimens in the series which are so very much larger than the rest that it is possible they may belong to a larger species; but from a study of several large series of skins taken from the same burrows in places in other parts of South Africa, it would seem that the full dentition is often obtained at a young age, as the following table will illustrate:—

	6 old spec.	8 yg. adults.	2 very young (only 3 molars).
H. and B. ...	... 152 -170	120 -135	101 -114
Cond. ins. leng. ...	... 36·9- 39·5	31·3- 36	27·2- 31·5
Con. nas. leng. ...	... 32 - 35	27·6- 31·4	24·3- 28·2
Zyg. br. ...	... 26 - 27·2	19·6- 22·6	? - 19
Br. premax. ...	... 6·7- 8	5·5- 6·9	5 - 5·4
Int. orb. br. ...	... 6·5- 7·3	6·4- 6·8	6·1- 6·5
Br. brain case ...	... 13·6- 15·5	12·6- 13·4	12·9- 13·2
Nas. leng. ...	... 11·2- 13·4	9·7- 11·5	? - 9·7
Nas. br. ...	... 2·8- 3·8	2·6- 3·4	? - 3
Mol. ser. ...	... 5·3- 6·1	5·2- 5·5	? - 5·2
Diastema ...	... 11·3- 12·5	9 - 10·5	- 8·9
Br. inc. ...	... 4·4- 5·8	3·7- 4·5	3·1- 3·5



Text fig. 6.—Skulls of *Georychus hottentottus*, Less., from dorsal aspect.

(a) ♂ specimen, T. M. Cat.,
No. M. 572.

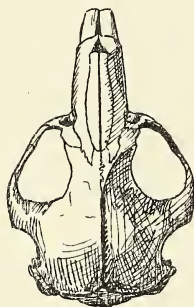
(b) ♀ specimen, T. M. Cat.,
No. M. 601.

The measurements given on the labels are not altogether satisfactory, and I cannot therefore now venture to give a definite opinion as to whether two or only one species are represented in this series.

201. *Georychus holosericeus*, Wagn. (Text fig. 7.)

1 juv. ♀, Pirie Forest (Stenning).

This specimen is very young, judging by the fragment of the skull attached. The nasals are broadest rather further forward than in the specimens from Knysna, and more pointed at both ends; they measure 3 mm. at the broadest part and 1·7 at the tip. The following measurements of the available parts of the skull will show that it is not referable to the same species as a specimen from the same place mentioned hereafter: Br. premax. 6, int. orb. br. 6·7, nasals 10·3 × 3, diastema 9·5, br. incisors 4·1.



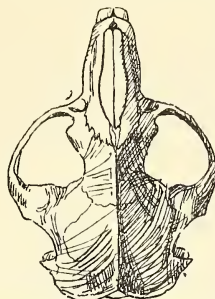
Text fig. 7.—Skull of *Georychus holosericeus*, Wagn., from dorsal aspect.

♂ specimen, T. M. Cat., No. M. 582.

202. *Georychus natalensis*, spec. nov. (Text fig. 8.)

Similar to *G. holosericeus*, but with the nasals pointed at the back, widest at about two-thirds of the length from the front and with the foremost third produced straight forward to the tip or with a very slight broadening at the tip.

Type: old ♀, Wakkerstroom, 10.12.12. H. and B. 160, tail 21·5, hind foot 25. Mammae 2 p. (1 in front, 1 at side)=4.

Text fig. 8.—Skull of *Georychus natalensis*, sp. nov., from dorsal aspect.1

Type specimen: a ♂, T. M. Cat., No. 1245.

This species is founded on a series of eleven skins (two of which are now in the Albany Museum) giving the following measurements:—

	6 old spec.		3 adults.		2 very young (with 3 molars).	
H. and B. ...	165	-177	150	-155	120	-130
Tail ...	20	- 25	19	- 21.5	23	- 23.5
Hind foot ...	24	- 26	24.5	- 25	21.5	- 22
Cond. inc. leng.	40	- 41	38.8	- 39.6	34.8	- 35.5
Cond. nas. leng.	36.3	- 37.3	35.2	- 35.6	31.6	- 32.6
Zyg. br. ...	26.3	- 28.6	25.6	- 26.8	23.4	- 23.9
Br. premax....	8	- 8.6	7.5	- 8.3	6.6	- 6.7
Int. orb. br....	7.6	- 8.2	7.9	- 8.3	7.6	- 8.1
Br. brain case	15.4	- 16	14.8	- 15.8	14.6	- 15
Nasals, leng ...	13.6	- 15.2	13.2	- 13.6	10.6	- 12
Nasals, br. ...	3.6	- 4	3.1	- 3.7	3	
Mol. ser. ...	6.2	- 6.9	6.5	- 7	—	
Diastema ...	11.3	- 13	11.4	- 11.8	9.5	- 10.5
Br. incisors ...	5.5	- 6.1	5.2	- 5.5	4.3	- 5
Br. mol. ...	6	- 6.8	6.1	- 7.1	5.6	- 5.9

Three specimens from the Dargle district and one from Hilton Road appear to be referable to this species; but none of them are fully adult.

203. *Georychus Jamesoni*, spec. nov.

Very similar to *G. natalensis*, but somewhat smaller in size; nasals intermediate in shape between *natalensis* and *arenarius*.

Type: Old ♀, ex coll. H. L. Jameson, Houghton Estate, Johannesburg, 4.6.07. "H. and B. 135, tail 15, hind foot 24." Mammae 2 p. (1 in front, 1 at side) = 4. Cotype; Old ♂, same place, "H. and B. 130, tail 17, hind foot 25." Also young ♂, same place, "H. and B. 117, tail 18, hind foot 23."

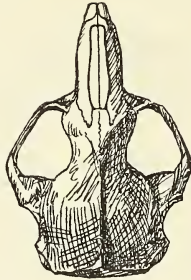
The skulls measure:—

	Type ♀.	Old ♂.	Young ♂. (3½ molars.)
Cond. inc. leng. ...	36.7	39.3	35.5
Cond. nas. leng. ...	32.8	33.8	32.5
Zyg. br. ...	24.3	24.1	21.6
Br. premax. ...	6.5	7	6.3
Int. orb. br. ...	8.2	7.8	8
Br. brain case	16	15.2	14.6
Nas. leng. ...	13.3	13.8	12.2
Nas. br. ...	3.3	3.4	3.1
Mol. ser. ...	6.2	6.8	6.4
Diastema ...	10.7	10.8	10
Br. inc. ...	4.8	5.4	4.3
Br. mol. ...	5.9	6.4	6.1

204. *Georychus arenarius*, spec. nov. (Text fig. 9.)

Differs from the preceding species in having narrow nasals that are only slightly broadened at about the middle of their length and posteriorly squared or at any rate not pointed: the premaxilla is produced straight back considerably beyond the back of the nasals in all the specimens examined.*

Type: Old ♀, Rietondale (East), Pretoria, 2.3.13. "H. and B. 145, tail 20, hind foot 25, mammae 2 p.=4." Cotype, an old ♂ from the same burrows; "H. and B. 145, tail 20, hind foot 27." Also two young specimens from the same burrows, taken on the same day, "H. and B. 110-120, tail 20-22, hind foot 22-24." These four specimens were all taken in white sandy soil and are rather lighter coloured than is the rule. In four other specimens taken in red soil not far off the fur is stained with the soil, but in other respects there does not appear to be any material difference.



Text fig. 9.—Skull of *Georychus arenarius*, sp. nov., from dorsal aspect.
♂ specimen, T. M. Cat., No. 1265.

	Old ♂.	Type ♀.	Young ♂. (3 molars.)	Young ♀. (3½ molars.)
Cond. inc. leng.	... 40·2	37·3	33·4	35·8
Cond. nas. leng.	... 36·8	34·3	29·6	32·1
Zyg. br.	... 26·5	24·4	19·2	21·3
Br. premax.	... 7·3	6·4	5·2	5·8
Int. orb. br.	... 7·5	7·2	7·5	7
Br. brain case	... 15·5	15	14	14·4
Nas. leng.	... 14	11·6	10·2	11·4
Nas. br.	... 3·3	3	3	3
Mol. ser.	... 6·8	6·3	—	6·5
Diastema	... 12·2	11·8	8·8	10·6
Br. inc.	... 5·1	4·5	3·8	4·2
Br. mol.	... 6·8	6·2	—	5·8

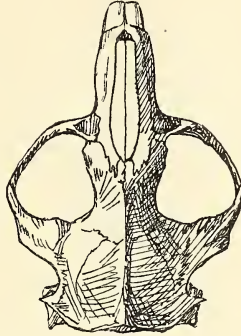
205. *Georychus anomalus*, subsp. nov. (Text fig. 10.)

A large form with the nasals long and narrow, about the same breadth throughout their length; mammae six in number.

Type: Fairly old ♀, Skinners Court Valley, Pretoria, 23.2.13. "H. and B. 140, tail 21, hind foot 26, mammae 3 p. (1 in front, 2 at side) =6." A ♂ taken in burrows not far from where the type was obtained is very much larger in all respects, although the incisors are narrow and the molars still unworn, seeming to show that it is fairly young; but on

* The closing up of the backward projecting points of the premaxilla varies in some species, while in others it seems to be a fixed character.

the other hand the colour is that of an old ♂. Traps were set for a week in the same burrows where the large ♂ was taken, but only resulted in the capture of a fairly young ♀ which does not differ from others of the same age caught in burrows not far off, although the traps were nearly always found set off. Eight skins with skulls and one skull were preserved of the specimens taken at the same place within an area of two hundred square yards.



Text fig. 10.—Skull of *Georychus anomalus*, sp. nov., from dorsal aspect.
♂ specimen, T. M. Cat., No. 1253.

In some specimens the premaxilla does not project backwards beyond the nasals: thus the transverse suture cuts almost straight across.

	Old(?) ♂.	Type ♀.	2 ad. ♂.	4 ad. ♀.	1 young ♀. (3 molars.)
H. and B. ...	160	140	145 - 150	135 - 145	105
Tail ...	20	20	15 - ?	17 - 21	19
Hd. ft. ...	32	26	24 - 26	23 - 26.5	22
Cond. inc. ...	44	40	39.3- 40.2	38 - 39	34.1
Cond. nas. ...	39.2	36	34.4- 36	33.4- 34.4	30.7
Zyg. br. ...	29.6	28	26.5- 27.5	25.3- 26.2	22.9
Br. premax. ...	8.5	7.3	6.8- 7.5	6.6- 7	6.3
Int. orb. br. ...	8.4	7.5	7.3- 8	7.4- 7.5	7.4
Br. brain case	16.5	16.1	15.3- 16.8	15.7- 16.2	15.1
Nas. leng. ...	16.3	14.5	13.7- 14.5	14 - 14.7	12
Nas. br. ...	3.5	3	2.9- 3.3	3 - 3.2	2.8
Mol. ser. ...	7.5	7.1	6 - 7	6.4- 7	—
Diastema ...	13.5	12	11.2- 12.8	10.5- 11	10.2
Br. inc. ...	5.5	5.3	5 - 5.7	4.5- 5	4.3
Br. mol. ...	6.5	6.3	6.5- 6.6	5.6- 6.3	5.4

An old ♂ and a young adult ♂ taken in stony ground on the hillside above "The Fountains," Pretoria, seem to be referable to the same subspecies, the nasals being about the same shape and measurements about the same:—

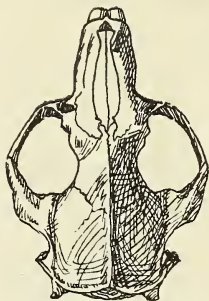
H. and B.	Tail.	Hd. ft.	Cond. inc.	Cond. nas.	Zyg. br.	Mol.	Br. i.
152	19	27	42.8	39	28.7	7.1	6.1
140	21	26.5	40	37	25.2	7.2	5

206. *Georychus aberrans*, spec. nov. (Text fig. 11.) ✓

Quite different from all the preceding species in having the nasals pointed at the back, swelling out broadly forwards, then tapering down to a very narrow neck, and finally swelling out again at the tip; the nasals

measure 4·2 at the broadest part, 1·4 at the neck, and 2·6 at the tip. This peculiarity is very pronounced and is quite distinct in a young adult and even in a very young specimen with only three visible molars.

Type: very old ♂, *ex coll.* H. H. Swinny, Port St. Johns, 10.10.11. "H. and B. 159, tail 14, hind foot 22."



Text fig. 11.—Skull of *Georychus aberrans*, sp. nov., from dorsal aspect.
Type specimen, T. M. Cat., No. M. 587.

The young adult ♂ from the same place is given as: "H. and B. 137, tail 14, hind foot 21," and the very young one as: "H. and B. 115, tail 13, hind foot 20." The skulls measure:—

	Type.	Young ad.	Very young.
Cond. inc.	40	36·2	31·8
Cond. nas.	36·9	33·6	28·5
Zyg. br.	28	24·5	20·1
Br. premax.	8·5	7·2	6
Int. orb. br.	8	7·4	7·4
Br. brain case	15	14·5	14·1
Nas. leng.	13·8	12·3	11·5
Nas. br.	4·2	3·1	3
Mol. ser.	6·1	5·8	—
Diastema	12·5	11·9	8·7
Br. inc.	6	5	4
Br. mol.	6·8	6·1	5·6

207. *Georychus*, spec.?

In dealing with the Rudd collection of small mammals, Thomas and Schwann placed Knysna specimens of the grey mole as *G. hottentottus*, and I have therefore done likewise. The question of whether the names of *G. hottentottus*, *caecutiens*, and *ludwigi* are synonymous is still open to doubt, however, and it is not until a very careful research into the life history of the species found in different parts of the Cape Province has been studied that we shall be able to prove their validity. The shape of the nasals and the general colouring is like that of the specimens placed with *G. Darlingi* by Sclater, but the white blaze on the forehead is absent in the ♂♂.

The present species is smaller than any of the grey species described above, and in addition has a rich suffusion of sandy buff over the whole of the body. It is not a stain due to the colour of the soil, as in the case of some of the specimens of *G. arenarius*, but a fixed character found in specimens taken in widely separated localities.

This smaller, richer-coloured, species, is represented in the collection by specimens from Pirie Forest (old ♀, Stenning), Malvern, Natal (old ♂

and ♀, Jameson), Hector Spruit (old ♂, Streeter), and Tzaneen Estate (old ♂ and ♀ and young ♀, Jameson). There are also six skins with skulls collectively said to have been taken in the Waterberg District by Dr. H. L. Jameson and kept alive in the Zoological Gardens.

	Pirie.	Malvern.	Hector Spruit.	Tzaneen.
H. and B. ...	125	120 - 121	130	110 - 125
Tail ...	12	19 - 20	12	15 - 17
Hd. ft. ...	19	21	—	17 - 20
Cond. inc. ...	31	33·1 - 36	34·7	30·2 - 34·5
Cond. nas. ...	27·8	30 - 32	30·4	28·2 - 30·8
Zyg. br. ...	21	22·2 - 22·3	22·3	20·7 - 22·7
Br. premax. ...	6·6	6·3 - 7·1	6·5	5·2 - 6·4
Int. orb. br. ...	6·5	7·2	7	6·4 - 7·5
Br. brain case ...	13·2	14·2 - 14·5	13·2	13·2 - 14·2
Nas. leng. ...	11·2	11·5 - 12	11	10 - 11·5
Nas. br....	3·1	2·8 - 3·3	2·9	2·6 - 3·2
Mol. ser. ...	5·5	5·5 - 5·9	5·3	5 - 5·5
Diastema ...	8·8	10 - 10·8	10	9·5 - 10
Br. inc....	4·2	4·2 - 4·5	4·5	3·8 - 4·1
Br. mol. ...	6	5·2 - 5·8	6	5 - 5·5

208. *Georychus talpoides*, Thos. and Schw.

7, Knysna (Rex, *ex* Daneel and Edinborough).

1 ♂, Hector Spruit (Streeter).

209. *Georychus pretoriae*, spec. nov.

Very similar to *G. talpoides*, but much larger in size and with a stronger suffusion of sandy buff on the under surface, sides, and cheeks.

Type: adult, but not old, ♂, Skinners Court Valley, Pretoria, 19.1.13. "H. and B. 140, tail 20, hind foot 24."

G. talpoides was made a subspecies of *G. hottentottus* by the discoverers, but the fact of its being found side by side with the grey coloured species would seem to show that it is distinct. The occurrence of this species in the open veld at Pretoria and *Chrysochloris corriae septentrionalis* at Wakkerstroom explodes the fallacy that the dark coloration is due to residence of the species in forested regions.

Two very young specimens were taken in the same hole as the type, but they were unfortunately so badly infested with ants that they could not be preserved. In colour they do not differ materially from the type.

	3 Knysna. (<i>talpoides</i> .)	1 Hector Spruit. (<i>talpoides</i> .)	1 Pretoria. (<i>pretoriae</i> .)
Cond. inc. leng.	31·4-35	35
Cond. nas. leng.	27·5-31	31·2
Zyg. br.	19 - 22·4	21·8
Br. premax.	5·3- 6·2	6·5
Int. orb. br.	6·4- 6·5	7·1
Br. brain case	12·4-13·8	14·3
Nas. leng.	9·8-11	11·5
Nas. br.	2·8- 3	3·4
Mol. ser.	5·4- 5·6	5
Diastema	9·5-11	10·8
Br. inc.	3·6- 4·3	4·4
Br. mol.	5 - 5·5	5·5

210. *Georychus Jorrissenii*, Jameson.

1 ♀ (cotype), Waynek, Waterberg District (Jameson).

3 yg. (two and three molars), Tzaneen Estate (Jameson).

211. *Georychus albus*, spec. nov.

In colour pure white throughout. Skull smaller than in any of the species recorded above, with the exception of *G. Jorrissenii*.

This species is represented by two specimens without labels and another in spirits bearing a torn label with the words "—nberg, K.K., Jan., 1899." It seems likely, therefore, that the three specimens all came from the same place, most likely Wynberg in the Cape Province.

The two specimens without labels, which have a full, and one a worn, dentition, measure in the skull: condylo-incisor length 29·5–30·2, cond. nasal leng. 26·3–27, zyg. br. ?–18·8, br. premax. 5·5, int. orb. br. 15·5, molar series 5–5·4, diastema 8·1–8·5, nasals 9·7–10 × 2·7–3, br. inc. 3·5–4, br. brain case 12·5.

212. *Thamuomys Swindernianus*, Temm.

2 ♂, 2 ♀, Tzaneen Estate (Jameson).

213. *Pronolagus crassicaudatus melanurus*, Rupp.

1 ♀, Klipfontein (Grant).

214. *Pronolagus ruddi*, Thos. and Schw.

1 Legogot, Barberton (Grant).

215. *Pronolagus ruddi randensis*, Jameson.

1 ♂, Houghton Estate (Jameson).

1 ♂, Makapan Caves (Jameson)?

216. *Pronolagus crassicaudatus Curryi*, Thos.

1 ♀, Deelfontein (Grant).

217. *Lepus ochropus*, Wagn.

3 ad., 1 juv. ♂, Ventersburg Road (Jameson).

1 ad. ♂, Potchefstroom (Ayles).

218. *Lepus capensis Granti*, Thos. and Schw.

1 ♂, Port Nolloth (Grant).

218a. *Lepus zuluensis*, Thos. and Schw.

1 ♀, Klein Letaba (Grant).

219. *Lepus zuluensis subrufus*, subsp. nov.

Somewhat larger in size than *L. z. typicus*, with a clear suffusion of sandy rufous over the upper parts, sides, and gular patch and less black on the back.

Type: old ♀, Wakkerstroom, 6.12.12. "H. and B. 530, tail 110, hind foot 115, ear 110. Mammae 2 mg. = 4." Skull: br. leng. 92·5, bas. leng. 71·2, zyg. br. 44, int. orb. br. 18·5, int. temp. br. 13, br. brain case 29·5, nasals 39·5 × 20·5, molar series 17, br. molars 27, palatal foramina 23·2 × 11·7, palatal bridge 6·2, bullae (including meatus) 17. The nasals differ from those of Klein Letaba specimen of *zuluensis* in being cut short across at the tips of the two backward projecting ends instead of ending in swallowtail-like points: hence they are shorter than in the typical race in proportion to the size of the skull.

A specimen from Potchefstroom (Jameson) is coloured like the Wakkerstroom specimen, or is perhaps a little more rufous, and has the backward projecting ends of the nasals rounded instead of being cut across, and in this respect is still not like the Klein Letaba specimen.

220. *Lepus saxatilis*, F. Cuv.
2 ad. ♂, 1 juv. ♂, Knysna (Grant, and Rex *ex* Daneel).
221. *Procavia capensis*, (Pall).
2 ad., 2 juv., Knysna (Rex).
223. *Dendrohyrax arboreus*, (A. Sm.).
2 ♀, Ngqeleni District, Pondoland (Swinnny).
224. *Cercopithecus pygerythrus*, Cuv.
2, Pretoria (Zoo).
1, Pretoria (pres. Mrs. Humphreys).
225. *Cercopithecus schmidtii*, Matsch.
1, Uganda (pres. the Misses Lawley).
226. *Cercopithecus labiatus*, I. Geoffr.
1, Pondoland (Zoo).
1, Pirie Forest (Albany Mus.).
227. *Cercopithecus albogularis kolbi*, Neum.
1, Brit. E. Africa (?).
228. *Papio cynocephalus*, E. Geoffr.
1, Transvaal (Zoo); and skeleton (Zoo).
229. *Papio porcarius*, (Bodd.).
3, Transvaal (Krantz, Zoo, and Market).
- (2) *Galago crassicaudatus garnetti*, (Ogilby).
1, Natal (Zoo).
- (3) *Galago moholi*, (A. Sm.).
3, Pretoria (2 Zoo and 1 pres. W. Tolsma, Esq.).
- (7) *Epomophorus Wahlbergi*, Sund.
1, Delagoa Bay (pres. Dr. L. Bostock).
- (9) *Roussettus leachi*, A. Sm.
1, Delagoa Bay.
- (19) *Nycteris capensis damarensis*, Ptrs.
2, Pretoria (pres. Dr. Gunning).
- (12) *Rhinolophus augur zuluensis*, K. And.
2, Pretoria (pres. A. J. Rutjers, Esq.).
2, Pretoria (in spirits), and one skeleton.
- (20) *Vespertilio capensis*, A. Sm.
2, Pretoria (pres. Dr. H. G. Breyer).
- (33) *Miniopterus natalensis*, (A. Sm.).
1, Pretoria (in spirits).
- (27) *Scotophilis nigrita herrero*, (Thos.).
1, Pretoria (pres. Dr. Gunning).
230. *Nyctinomus aegyptiacus*, E. Geoffr.
1, Grahamstown (Albany Mus.).
- (?) *Elephantulus intufi*, (A. Sm.).
2, Pretoria (Zoo).
- (?) *Elephantulus rupestris jamesoni*, Chubb.
1, Pretoria (Zoo).
- (73) *Erinaceus frontalis*, A. Sm.
1 ad., 1 juv., Pretoria (Zoo).

- Myosorex* (? *tenuis*, Thos. and Schw.)
No history.
- Crocidura* (? *cinnamomea*, Licht.)
1, Pretoria (pres. C. W. Howard, Esq.).
- Crocidura* (? *sylvia*, Thos. and Schw.)
1, Wonderboom (pres. Miss Adendorff).
- (66) *Chrisochloris hottentotus longiceps*, Brown.
1, Volksrust.
A very bright reddish specimen.
231. *Mellivora ratel*, (Sparrm.).
2, Transvaal.
One of the specimens is tawny reddish in place of the black parts in the other specimen.
- (74) *Ictonyx capensis*, (Kaup.).
1, Pretoria (Zoo); 1, Platriver, Pretoria (Noomé).
- (75) *Poecilogale albinucha*, (Gray).
1, Hennops River; 1, Zuurfontein, Pretoria District (pres.).
232. *Aonyx capensis*, (Schinz).
2, Pretoria District (purchased).
233. *Canis mesomelas*, Schreb.
1, Pretoria (Zoo).
234. *Canis adustus*, Sund.
1, Komatipoort (pres. J. P. Hotchkiss, Esq.).
235. *Vulpes chama*, A. Sm.
1, Bloemfontein (pres. J. Visscher, Esq.).
2, Vryburg (pres. de Villiers, Esq.).
1, Pretoria (Zoo).
236. *Otocyon megalotis*, Desm.
1 ad., Palapye, B.P.; 1 juv., no label.
237. *Lycan pictus zuluensis*, Thos.
2, Sabie Game Reserve (pres. Maj. J. S. Hamilton).
238. *Proteles cristatus*, (Sparrm.).
1 ad., 3 juv., and 1 skeleton, Pretoria (Zoo).
239. *Hyaena crocuta*, Erxl.
1, Lydenburg (Krantz).
1, no history.
240. *Viverra civetta*, Schreb.
2, Transvaal (Krantz and Zoo).
- (78) *Genetta tigrina*, (Schreb.).
1, Mowbray, Cape Province (Zoo).
- (?) *Genetta felina*, Thunb.
1, Pretoria (pres. L. G. Lynwood, Esq.).
- (80) *Mungos caui*, (A. Sm.).
1, Lydenburg (Krantz).
1, Komatipoort (?).
1, Pretoria (Zoo).
241. *Mungos paludinosus rubellus*, Thos. and Schw.
1, Transvaal (Krantz).

- (88) *Helogale brunnula*, Thos. and Schw.
 1, Waterberg (Krantz).
 1, Barberton (pres. Master Glaum).
 1, Pretoria (Zoo).
- (90) *Cynictis penicillata*, (G. Cuv.).
 1, Pretoria (pres. Ledebouer, Esq.).
- (92) *Crossarchus fasciatus*, (Desm.).
 1 Mashonaland (?), (Marais).
- (91) *Suricatta tetradactyla*, (Schreb.).
 3, Pretoria (Zoo).
242. *Felis leo*, Linn.
 1, Nubia (pres. Sir J. G. Maxwell).
 1 ♂, 1 ♀, Transvaal (Krantz).
 1, skeleton, Mashonaland (pres. Capt. Taylor).
 1 ♂, head and shoulders, Lydenburg (dep. by Mrs. F. Watkins).
243. *Felis pardus*, L. (? *melanotica*).
 1, juv. ♀, Grahamstown (Zoo).
244. *Felis capensis*, Gm.
 1, Krugersdorp (pres. Mr. Barclay).
245. *Felis ocreata caffra*, Desm.
 1, Pienaars River, Transvaal (Zoo).
 1, juv. ♀, Pretoria (Zoo).
246. *Felis nigripes*, Burch.
 1 ♀, Klerksdorp (pres. Raym. Gooch, Esq.).
247. *Cynailurus jubatus*, Fitz.
 1, Nairobi (pres. Mr. Percival).
248. *Caracal caracal nubica*, Fitz.
 1, Lydenburg (Zoo); 1, Transvaal (Zoo).
249. *Arctocephalus pusillus*, Schreb.
 1 ad., 1 juv., coast of S. Africa (Zoo).
- (93) *Paraxerus cepapi* (A. Sm.).
 1, Waterberg (Krantz).
 2, Mashonaland (Wilde).
- (99) *Geosciurus capensis*, A. Sm.
 2 ad., 3 juv., Kroonstad (pres. Dr. Symonds and Messrs. L. T. Griffin and A. K. Haagner).
- (101) *Graphiurus murinus transvaalensis*, Rbts.
 1, Middelburg, Transvaal (pres. Mr. Lombard).
- (102) *Graphiurus pretoriae*, Rbts.
 No history.
- (104) *Graphiurus Eastwoodae*, Rbts.
 No history.
- (?) *Otomys unisulcatus*, Brauts.
 1, Fish River, Cape Province.
- (116) *Tatera Brantsi*, A. Sm.
 Waterberg (pres. Dr. H. L. Jameson).
- (137) *Steatomys pratensis*, Ptrs.
 1, Sabi River (pres. Mr. Goldfinch).

- (141) *Mus norvegicus*, Erxl.
1, Pretoria (Krantz).
- (142) *Mus rattus*, L.
2, Pretoria (pres. S. M. Tweeddil, Esq.).
- (180) *Arvicanthis pumilio Moshesh*, Wr.
3, Pretoria.
250. *Arvicanthis pumilio bechuanæ*, Thos.
2, Palapye.
251. *Pedetes caffer salinae*, Wr.
1 ♂, Transvaal (Zoo).
- (212) *Thryononys Swindernianus*, Temm.
1, juv., Pretoria (Zoo).
1, Zoutpansberg (Zoo).
252. *Hystrix africae-australis*, Ptrs.
1 ♂, Transvaal (Zoo).
- (217) *Lepus ochropus*, Wagn.
1, Pretoria (pres. Dr. Arnold).
Pronolagus, spec. ?
1, juv., Pretoria.
- (221) *Procavia capensis*, (Pall.).
1 ad., 1 juv., Pretoria (Zoo).
- (223) *Dendrohyrax arborea*, (A. Sm.).
1, Port Elizabeth (Brown).
253. *Diceros simus*, Burch.
1 ♀, Zululand (pres. Carl Jeppe, Esq.).
2 horns, Brit. E. Africa (purchased).
254. *Diceros bicornis*, L.
1 ♀, Lomagunda, Mashonaland (pres. Julius Jeppe, Esq.).
2, horns, Brit. East Africa (purchased).
255. *Hippotigris Chapmani transvaalensis*, Ewart.
1 ♂, 1 ♀, and skeleton, Transvaal (Krantz and Zoo).
256. *Hylochoerus Meinertzhageni*, Thos.
1, West Africa (purchased).
257. *Potamochoerus choeropotamus*, (Desm.).
1, Transvaal.
258. *Phacochoerus aethiopicus*, Linn.
1 ♀, Pretoria Dist. (pres. O. Liebengath, Esq.).
259. *Hippopotamus amphibius*, (Linn.).
1, South Africa (pres. Sir T. Cullinan).
1, South Africa (skeleton).
260. *Giraffe camelopardalis capensis*, E. Geoffr.
1 ad. ♂, 1 juv., 1 head and neck, and 1 skeleton, Germ. S.W. Africa
(Wilde and pres. Messrs. E. T. Bourke and Geo. Heys).
261. *Bubalis Lichtensteini*, Ptrs.
1 ♀, E. Africa (Krantz).
1 ♂, 1 ♀, N.W. Rhodesia (Wilde).
1 ♂, 1 ♀ (heads), N.W. Rhodesia (Wilde).

262. *Damaliscus albifrons*, (Burch.).
 1 ♂, Potchefstroom (pres. Mr. Pistorius).
 1 ♀, Orange Free State (pres. E. Esselen, Esq.).
 1 ♂ (head), Orange Free State (Noomé).
263. *Damaliscus lunatus*, Burch.
 1 ♂, E. Transvaal (pres. Maj. J. S. Hamilton).
 1 ♀, Germ. S.W. Africa (Wilde).
 1 ♂, 1 ♀ (heads), Bechuanaland (Noomé).
264. *Connochaetes taurinus*, (Burch.).
 1 ♂, Transvaal (pres. Dr. Breyer).
 1 ♂, E. Transvaal (pres. Maj. J. S. Hamilton).
 1 ♀, N.W. Rhodesia (Wilde).
 1 ♂, 1 ♀ (heads), N.W. Rhodesia (Wilde).
265. *Connochaetes taurinus Johnstoni*, Sel.
 1 ♂, 1 ♀ (heads), Boror, P. E. Afr. (Kirby and Roberts).
266. *Connochaetes albojubatus*, Thos.
 1 juv. ♀, E. Africa (Ward).
267. *Connochaetes gnu*, Zimm.
 1 ♂, Kroonstad (pres. E. Esselen, Esq.).
 1 ♀, Kroonstad (pres. Julius Jeppe, Esq.).
 1 juv. ♀, S. Africa (Zoo).
 1 ♂, 1 ♀ (heads), Orange Free State (Noomé).
268. *Cephalophus Harveyi*, Thos.
 1 ♂, Nairobi, B. E. Afr. (Zoo).
269. *Cephalophus natalensis amoenus*, Wr.
 1 ♀, Barberton (pres. Master Glaum).
270. *Cephalophus monticola*, (Thunb.).
 1 juv., Port Elizabeth (P. E. Museum).
 1 ♀, Cape Colony (Taylor).
 1 ♀, S. Africa (Zoo).
271. *Cephalophus Grimmi*, Linn.
 1 ♂, Transvaal (Krantz).
 1 juv., Pretoria (Zoo).
 1, Transvaal (Zoo).
 1 ♀ (albino), Lydenburg (pres.).
272. *Oreotragus oreotragus*, (Zimm.).
 1 ♂, Transvaal (Krantz)
273. *Ourebia ourebi*, (Zimm.).
 1 juv., Pretoria District (Zoo).
 1 ♀ juv., Pretoria District (Zoo).
274. *Rhaphiceros campestris*, (Thunb.).
 2 ♂, Transvaal (Zoo).
 1 ♀, Transvaal (pres. H. Wilson, Esq.).
275. *Rhaphiceros melanotis*, (Thunb.).
 1 ♂, Stellenbosch.
276. *Rhaphiceros Sharpei*, Thos.
 1 ♂, N. W. Rhodesia (Wilde).
277. *Nesotragus Livingstonianus*, Kirk.
 1 ♂, Delagoa Bay.

278. *Cobus ellipsiprymnus*, (Ogilby).
 1 ♀, Transvaal (Krantz).
 1 ♂, 1 ♀, Sabi Game Reserve (pres. Maj. J. S. Hamilton).
 1 juv., Transvaal (Zoo).
279. *Cobus Penricei*, Rothsch.
 1 ♂, 1 ♀, N. W. Rhodesia (Wilde).
280. *Adenota Vardonii*, (Livingst.).
 1 ♂, 1 ♀, N. W. Rhodesia (Wilde).
 1 ♂ (head), N. W. Rhodesia (Wilde).
281. *Adenota leche*, Gray.
 1 ♂, 1 ♀, N. W. Rhodesia (Wilde).
282. *Redunca arundinum*, (Bodd.).
 1 ♂, Transvaal (Krantz).
 1 ♂, N. W. Rhodesia (Wilde).
 1 ♀ (albino), Sabi (pres. Maj. J. S. Hamilton).
 1 ♀, no history.
283. *Cervicapra fulvorufula*, (Afzel.).
 1 ♀, 1 juv., Transvaal (Krantz and purchased).
284. *Pelea capreolus* (Bchst.).
 1 ♂, Transvaal (Krantz).
285. *Aepyceros melampus*, Lcht.
 1 ♂, Transvaal (Wilde).
 1 ♀, Transvaal (Krantz).
286. *Antidorcas euchoire*, (Sparrm.).
 1 juv., Transvaal (Krantz).
 1 ♂, Cape (pres. Mrs. Pirie).
 1 ♂ (albino), Carlton, C.P. (pres. A. J. Visser, Esq.).
287. *Hippotragus equinus*, (Is. Geoff.).
 1, Transvaal (Krantz).
 1 ♂, 1 ♀, N. W. Rhodesia (Wilde).
 1 ♂, 1 ♀ (heads), N. W. Rhodesia (Wilde).
288. *Hippotragus niger*, (Harris).
 2 ♂, Transvaal (Krantz).
 1 ♀, S. Africa (Zoo).
289. *Oryx gazella*, Linn.
 1 ♀, Bechuanaland.
290. *Tragelaphus scriptus*, (Pall.).
 1 ♂, N. W. Rhodesia.
291. *Tragelaphus sylvaticus*, (Sparrm.).
 1 juv. ♀, Barberton (pres. Master Glaum).
292. *Tragelaphus Spekei*, ScL.
 1 juv. ♂, N. W. Rhodesia (pres. by King Lewanika).
293. *Strepsiceros strepsiceros*, Pall.
 1 ♂, 1 ♀, 1 juv., Transvaal (Krantz).
294. *Strepsiceros Angasi*, Angas.
 1 ♂, P. E. Africa (pres. Maj. J. C. B. Statham).
295. *Taurotragus oryx Livingstonei*, ScL.
 1 ♂, 1 ♀, N. W. Rhodesia (Wilde).
 1 ♂, 1 ♀ (heads), N. W. Rhodesia (Wilde).

296. *Manis Temmincki*, (Smuts).
1, Barberton (pres. Messrs. Edwards Bros.).
1, Komatipoort (pres. J. G. Hotchkiss, Esq.).
1, Komatipoort (pres. J. v. d. Veen, Esq.).
1 skeleton, South Africa (Zoo).
297. *Orycteropus capensis*, Gm.
1, Pretoria.
1, Knapdaar, C.P. (pres. A. M. Hughes, Esq.).
298. *Buffelus caffer*, (Sparrm.).
1 ♂, N. W. Rhodesia (Wilde).

There is also a considerable collection of skulls which should be included in this paper; but owing to the fact that the data appended to them being so unsatisfactory and many of the skulls having been acquired from the Zoological Gardens without localities being indicated, I have thought it advisable to ignore them entirely.
